AD-750 527

SELECTED MATERIAL FROM SOVIET TECHNICAL LITERATURE, AUGUST 1972

Informatics, Incorporated

Prepared for:

Air Force Office of Scientific Research
Advanced Research Projects Agency

4 October 1972

SELECTED MATERIAL FROM SOVIET TECHNICAL LITERATURE

August 1972

Sponsored by

Advanced Research Projects Agency

SELECTED MATERIAL FROM SOVIET TECHNICAL LITERATURE

August 1972

Sponsored by

Advanced Research Projects Agency

ARPA Order No. 1622-3

October 4, 1972

ARPA Order No. 1622-3
Program Code No: 62701D2F10
Name of Contractor:
Informatics Inc.
Effective Date of Contract:
January 3, 1972
Contract Expiration Date:
December 31, 1972
Amount of Contract: $250,000

Contract No. F44620-72-C-0053
Principal Investigator:
Stuart G. Hibben
Tel: (301) 779-2850 or
(301) 770-3000
Short Title of Work:
"Soviet Technical Selections"

This research was supported by the Advanced Research Projects Agency of the Department of Defense and was monitored by the Air Force Office of Scientific Research under Contract No. F44620-72-C-0053. The publication of this report does not constitute approval by any government organization or Informatics Inc. of the inferences, findings, and conclusions contained herein. It is published solely for the exchange and stimulation of ideas.

informatics inc
Systems and Services Company
6000 Executive Boulevard
Rockville, Maryland 20852
(301) 770-3000 Telex: 89-521

UNCLASSIFIED

Security Classification

DOCUMENT CONTROL DATA - R & D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY (Corporate author)

Informatics Inc.
6000 Executive Blvd.
Rockville, Md. 20852

2a. REPORT SECURITY CLASSIFICATION

UNCLASSIFIED

2b. GROUP

3. REPORT TITLE

Selected Material from Soviet Technical Literature, August, 1972

4. DESCRIPTIVE NOTES (Type of report and inclusive dates)

Scientific . . . Interim

5. AUTHOR(S) (First name, middle initial, last name)

Stuart G. Hibben

6. REPORT DATE

Oct. 4, 1972

7a. TOTAL NO. OF PAGES

84

7b. NO. OF REFS

8a. CONTRACT OR GRANT NO

F44620-72-C-0053

b. PROJECT NO

c. 1622-3

d. 62701D2F10

9a. ORIGINATOR'S REPORT NUMBER(S)

9b. OTHER REPORT NO(S) (Any other numbers that may be assigned this report)

AFOSR - TR - 72 - 1999

10. DISTRIBUTION STATEMENT

Approved for public release; distribution unlimited.

11. SUPPLEMENTARY NOTES

Tech. Other

12. SPONSORING MILITARY ACTIVITY

Air Force Office of Scientific Research
1400 Wilson Boulevard
Arlington, Virginia 22209

13. ABSTRACT

This report includes bibliographic lists on major contractual subjects that were completed in August, 1972. The major topics are: laser technology, effects of strong explosions, geosciences, and particle beams. A section on material science has been included as the optional fifth topic, as well as a section on items of miscellaneous interest.

To avoid duplication in reporting, only laser entries concerning high-power effects have been included, since all current laser material will appear routinely in the quarterly bibliographies.

An index identifying source abbreviations is appended.

DD FORM 1 NOV 68 1473

UNCLASSIFIED

Security Classification

INTRODUCTION

This report includes bibliographic lists on major contractual subjects that were completed in August, 1972. The major topics are: laser technology, effects of strong explosions, geosciences, and particle beams. A section on material science has been included as the optional fifth topic, as well as a section on items of miscellaneous interest.

To avoid duplication in reporting, only laser entries concerning high-power effects have been included, since all current laser material will appear routinely in the quarterly bibliographies.

An index identifying source abbreviations is appended.

TABLE OF CONTENTS

1. Laser Technology

A. Recent Selections

i. Beam-Target Effects

Andreyev, V. G., and P. I. Ulyakov. Internal thermal shock in a plate. PM, no. 7, 1972, 54-59.

Anisimov, S. I., B. I. Dmitrenko, L. V. Leskov, and V. V. Savichev. Effect of surface reflectance on evaporation of metal by intense optical flux. FiKhOM, no. 4, 1972, 10-14.

Gulyayeva, A. S., B. A. Krasyuk, V. N. Maslov, and B. A. Sakharov. Change in photoluminescence of GaAs single crystals in regions damaged by laser beam. DAN SSSR, v. 205, no. 4, 1972, 815-817.

Khazov, L. D. Effect of a strong optical field on transparent dielectrics. IN: Trudy Gosudarstvennogo opticheskogo instituta, v. 41, no. 172, 1971, 22-29 (RZhF, 6/72, no. 6D1230).

Mikaelyan, A. L., and V. V. D'yachenko. Phenomenon of a sustained wave front in strongly deformed solids. ZhETF P, v. 16, no. 1, 1972, 25-29.

Nekrasov, L. B., and L. E. Rikenglaz. Reflection of e-m field energy from a semi-infinite dielectric medium, for the case of phase change in the medium. ZhTF, no. 7, 1972, 1339-1342.

Novikov, N. P., V. P. Perminov, and A. A. Kholodilov. Stationary one-dimensional destruction of thermoplastics by intense fluxes of beamed energy. I-FZh, v. 23, no. 2, 1972, 257-266.

Poplavskiy, A. A., G. P. Tikhomirov, and T. S. Turovskaya. Election microscope examination of radiation damage in dielectrics. ZhTF, no. 7, 1972, 1462-1463.

Uglov, A. A., A. A. Zhukov, A. N. Kokora, M. A. Krishtal, and M. Kh. Shorshorov. "Shift" of critical points under laser heating of carbon-iron alloys. FiKhOM, no. 2, 1972, 3-8.

Zakharov, V. P., V. N. Chugayev, and V. I. Zaliva. Effect of phase change on the shf conductivity of thin germanium films. FiKhOM, no. 4, 1972, 149-152.

ii. Beam-Plasma Interaction

Aglitskiy, E. V., N. G. Basov, V. A. Boyko, V. A. Gribkov, S. A. Zakharov, O. N. Krokhin, and G. V. Sklizkov. Determination of electron density, velocity and gas-dynamic pressure in laser plasma. 10th Int'l. Conf. Phenom. Ioniz. Gases, Oxford, 1971, 229 (RZhMekh, 8/72, no. 8B198).

Alkhimov, A. P., V. F. Klimkin, A. I. Ponomarenko, and R. I. Soloukhin. On the development of a discharge initiated by a laser spark. Ibid., 227 (RZhMekh, 8/72, no. 8B196).

Galeyev, A. A., V. N. Orayevskiy, and R. Z. Sagdeyev. Anomalous absorption of e-m radiation at double the plasma frequency. ZhETF P, v. 16, no. 3, 1972, 194-197.

Kaliski, S. Alternative description of laser plasma heating for a spherical thermal wave, the fusion energy being taken into account. Bull. Acad. Pol. des Sci., Ser. Sci. techn., v. 20, no. 5, 1972, 81-87.

Kaliski, S. Averaged equations for joint treatment of hydrodynamic expansion and conduction-type heating of plasma, the energy of nuclear fusion being taken into consideration. Part II. Spherical Problem. Ibid., 89-93.

Knyazev, I. N., and V. S. Letokhov. Stimulated emission in the far vacuum u-v from fast heating of an electron plasma by ultrashort optical pulses. OiS, v. 33, no. 1, 1972, 110-114. (See also RZhMekh, 8/72, no. 8B102).

Malyshev, G. M., G. T. Razdobarin, and V. V. Semenov. Scattering method for determining the plasma parameters of a laser spark in air. ZhTF, no. 7, 1972, 1429-1431.

Mitsuk, V. E., R. M. Savvina, and V. A. Chornikov. Optical breakdown in gas mixtures. 10th Int'l. Conf. Phenom. Ioniz. Gases, Oxford, 1971, 233 (RZhMekh, 8/72, no. 8B201).

Norinskiy, L. V. Initiation of directional electric breakdown in air by the third harmonic of Nd laser radiation. Ibid., 228 (RZhMekh, 8/72, no. 8B197).

Zhuravlev, V. A., and G. D. Petrov. Optical scattering by electrons in a high-temperature plasma. OiS, v. 33, no. 1, 1972, 36-41.

2. Effects of Strong Explosions

A. Recent Selections

i. Shock Wave Effects

Afanas'yev, G. T., V. K. Bobolev, Yu. A. Kazarova, and Yu. F. Karabanov. Formation of local heating during shock destruction of thin layers. FGiV, no. 2, 1972, 299-306.

Artamonova, T. A., and V. A. Baskakov. Reflection of irrotational shock waves from an elasto-plastic half-space boundary. IN: Trudy Nauchno-issledovatel'skogo instituta matematiki Voronezhskogo universiteta, no. 4, 1971, 103-105. (LZhS, 29/72, no. 95434)

Boncheva, Kh., and I. Radovanov. Wave propagation in a viscoelastic finite length rod. Izvestiya Instituta tekhn. mekh. B'lg. AN, no. 8, 1971, 47-60. (RZhMekh, 8/72, no. 8V406)

Byszewski, W. W., and M. Dembinski. State of population inversion in an electromagnetic shock tube. Bull. Acad. pol. sci., Ser. sci. techn., v. 19, no. 11, 1971, 857-862. (RZhF, 6/72, no. 6G27)

Chekalin, E. K., and M. A. Novgorodov. Effect of near-electrode processes on discharge characteristics in a conducting gas flow. ZhTF, no. 7, 1972, 1519-1527.

Chernyshov, A. D. Reflection of an irrotational shock wave from a rigid wall and the free surface of an elastic half-space. Problem of motion of stepwise loading at superseismic speeds along the half-space boundary. IN: Sbornik. Dinamika sploshnoy sredy. Novosibirsk, no. 8, 1971, 125-134. (RZhMekh, 8/72, no. 8V44)

Deribas, A. A., V. F. Nesterenko, and A. M. Staver. Electron diffusion through a shock wave front in metals. FGiV, no. 2, 1972, 311-314.

Henrych, J., and J. Jonasova. Frame systems under shock loads. Acta polytechnica, Series l, no. 1, 1970, 55-113. (RZhMekh, 8/72, no. 8V191)

Ivlev, A. A. Shock wave acceleration in powder explosives. IN: Trudy XV i XVI nauchnoy konferentsii Moskovskogo fiziko-tekhnicheskogo instituta, 1969-1970. Seriya Aero-fizicheskoy i prikladnoy matematiki. Chast' l. Dolgoprudnyy, 1971, 36-49. (RZhMekh, 8/72, no. 8B304)

Rakhmatulina, A. Kh., and S. I. Anisimov. Self-similar thermal waves in a two-temperature plasma. IN: 10th International Conference on Phenomena of Ionized Gases. Oxford, 1971, 275. (RZhMekh, 8/72, no. 8B321)

Rokhlin, I. A. Dynamic strength of concrete under shock loading. IN: Stroitel'nyye konstruktsii, no. 20, 1972, 18-23. (RZhMekh, 8/72, no. 8V1000)

Tulyakov, A. S. Filtering during measurement of shock impulsive acceleration parameters. IN: Trudy VNII elektromekhaniki, v. 37, 1971, 265-271. (LZhS, 28/72, no. 92589)

Vasil'yev, V. A., and A. A. Ivlev. Calculating the initiation of shock wave detonation of mechanically nonuniform explosives. FGiV, no. 2, 1972, 290-298.

Volny v neuprugikh sredakh. (Waves in nonelastic media. Collection of articles). Kishinev, 1970, 239p.

Vysokoskorostnaya deformatsiya. Voprosy povedeniya metallicheskikh materialov pri impul'snom nagruzhenii. (High speed deformation. Behavior of metals under impulse loads. Collection of articles.) Moskva, Izd-vo Nauka, 1971, 127p.

Yegorov, L. A., E. V. Nitochkina, and Yu. K. Orekin. Recording of Debye diagrams for shock wave compressed aluminum. ZhETF P, v. 16, no. 1, 1972, 8-10.

Zavarzina, N. A. Propagation of compression waves in a hypo-elastic medium. IN: Trudy NII matematiki Voronezhskogo universiteta, no. 4, 1971, 105-107. (LZhS, 29/72, no. 94665)

ii. Hypersonic Flow

Belov, I. A., I. A. Ginzburg, and L. I. Shub. Interaction of an underexpanded supersonic jet with an obstacle. IN: Sbornik. Teplo- i massoperenos. Minsk, v. 1, 1972, 228-237. (RZhMekh, 8/72, no. 8B504)

Borovskiy, Ye. E., V. Ya. Zakharchenko, M. V. Tsvetkova, and V. N. Shashmurin. Experimental investigation of strong blowoff on axisymmetric bodies of revolution. IN: Sbornik. Teplo- i massoperenos. Ch. 3, Minsk, v. 1., 1972, 227-232. (RZhMekh, 8/72, no. 8B408)

Druker, I. G., and L. Ya. Treyer. Calculation of hypersonic boundary layer during blowoff of a liquid coolant. IN: Sbornik. Teplo- i massoperenos. Minsk, v. 1, 1972, 167-170. (RZhMekh, 8/72, no. 8B841)

Goncharuk, P. D., V. I. Kosarev, and M. B. Prokhorov. Supersonic flow around concave-generatrix axisymmetric bodies. IN: Trudy Konferentsiya Moskovskogo fiziko-tekhnicheskogo instituta, 1970. Seriya Aerofiz. Priklad. Mat. Moskva, 1971, 53-63. (RZhMekh, 8/72, no. 8B409)

Ladnova, L. A. Effect of blowoff on nonequilibrium hypersonic flow near the critical point of a body with arbitrary catalytic surface activity, including effects of low Reynolds numbers. IN: Sbornik. Teplo- i massoperenos, ch. 3. Minsk, v. 1, 1972, 150-160. (RZhMekh, 8/72, no. 8B404)

Mironov, B. P., A. A. Zelengur, P. P. Lugovskoy, A. V. Gomelauri, and V. N. Vasechkin. Turbulent transition under strong blowoff of longitudinal pressure gradient and nonisothermality. IN: Sbornik. Teplo- i massoperenos. Minsk, v. 1, 1972, 33-40. (RZhMekh, 8/72, no. 8B793)

Shub, L. I., and T. N. Ryabinina. Calculation by the source method of two-phase flow in a supersonic underexpanded jet. IN: Sbornik. Teplo- i massoperenos. Minsk, v. 1, 1972, 238-245. (RZhMekh, 8/72, no. 8B1046)

Torbunov, S. S. Solution of boundary problems of supersonic gas dynamics in a hodograph plane. IN: Sbornik. Proyektirovaniye i raschety mekhanizmov i detaley mashin. Novosibirsk, 1971, 107-120. (RZhMekh, 8/72, no. 8B393)

iii. Soil Mechanics

Abdullayev, T. M., N. I. Kydyrbayev, and M. Artykov. On the theory of nonlinear wave propagation in two-component media. IAN UzbSSR. Seriya tekhnicheskikh nauk, no. 4, 1972, 59-61.

Akhvlediani, N. V. Rigid-plastic model of structural limiting state under effect of seismic pulses. IN: Sbornik. Stroitel'naya mekhanika prostranstvennykh konstruktsiy. Tbilisi. Izd-vo Metsniyereba, 1972, 5-9. (RZhMekh, 8/72, no. 8V711)

Arifkhanov, N. I. Characteristics of rock destruction from static and dynamic heating. IAN UzbSSR. Seriya tekhnicheskikh nauk, no. 4, 1972, 55-57.

Avchyan, G. M. Fizicheskiye svoystva osadochnykh porod pri vysokikh davleniyakh i temperaturakh. (Physical properties of sedimentary rocks under high pressures and temperatures). Moskva, Izd-vo Nedra, 1972, 145p.

Bakhtin, P. U. Fiziko-mekhanicheskiye i tekhnologicheskiye svoystva pochv. (Physico-mechanical and technological properties of soils). Moskva, Izd-vo Znaniye, 1971, 64p.

Bazhin, I. I. Determining frequency of natural oscillations of a rigid elastic-base foundation under the effect of an impulsive explosion. IN: Impul'snaya obrabotka metallostaticheskim davleniyem, no. 1, 1970, 88-92. (RZhMekh, 8/72, no. 8V532)

Bogatskiy, V. F., and V. Kh. Pergament. Energy of carrier frequencies. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 21-26.

Bogatskiy, V. F., I. T. Slashchilin, and V. D. Pechenkin. Effect of industrial explosions on buildings and surface complexes of mines and quarries. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 14-18.

Davydenko, A. I., and V. D. Pechenkin. Determining safe distances for explosions of a boulder by pressure charges. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 38-40.

Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. (Effect of industrial explosions on a rock and construction massif. Collection of articles). Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 123p.

Dokuchayev, M. M., A. T. Galimullin, N. U. Turuta, and M. M. Zaytsev. Vzryvaniye naklonnymi skvazhinnymi zaryadami na kar'yerakh. (Explosions of inclined borehole charges in quarries). Moskva. Izd-vo Nedra, 1971, 207p.

Dremin, A. N., and S. V. Pershin. Characteristics of shock compressed eclogite. IN: Fiziko-tekhnicheskikh problem razrabotki poleznykh iskopayemykh, no. 5, 1971, 133-134. (RZhMekh, 8/72, no. 8V618)

Fadeyev, A. B. Drobyashcheye i seymicheskoye deystviye vzryvov na kar'yerakh. (Pulverizing and seismic effects of blasting in quarries). Moskva, Izd-vo Nedra, 1972, 135p.

Feshchenko, A. A., and V. S. Eristov. Konturnoye vzryvaniye v gidrotekhnicheskom stroitel'stve. (Contour blasting in hydraulic engineering construction). Moskva, Izd-vo Energiya, 1972, 120p.

Filatov, V. I. Investigation of stress wave reflection from a restricted free surface. IN: Nauchnyye soobshcheniya. Institut gornogo dela imeni Skochinskogo, no. 92, 1972, 87-94. (RZhMekh, 8/72, no. 8V620)

Gurevich, S. K., and Yu. R. Daderko. Method for processing seismic data from single-stage tracking. Otkr izobr, no. 16, 1972, no. 342155.

Guz', A. N. Difraktsiya uprugikh voln v mnogosvyaznykh telakh. (Elastic wave diffraction in multiply-connected bodies). Kiyev. Izd-vo Naukova dumka, 1972, 254p.

Kichigin, A. F., S. N. Ignatov, A. G. Lazutkin, and I. A. Yantsen. Mekhanicheskiye razrusheniye gornykh porod kombinirovannym sposobom. (Mechanical destruction of rocks by a combined method.) Moskva, Izd-vo Nedra, 1972, 256p. (RZhMekh, 8/72, no. 8V633 K)

Kosharnov, M. F. Detonation of concentrated charges of igdanite. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 104-110.

Kucheryavyy, F. I., and Yu. M. Kozhushko. Razrusheniye gornykh porod. (Destruction of rocks. Textbook for mining specialists). Moskva. Izd-vo Nedra, 1972, 240p.

Kuznetsov, A. P. Probability analysis of intensive destruction in a continuous medium. IN: Sbornik. Fiziko-tekhnicheskoye issledovaniye razrabotki i obogashchenii rud. Moskva, 1972, 14-23. (RZhMekh, 8/72, no. 8V578)

Landa, B. N. Horizontal seismic detector. Otkr izobr, no. 19, 1972, no. 342153.

Lomtadze, V. D. Metody laboratornykh issledovaniy fiziko-mekhanicheskikh svoystv gornykh porod. (Methods of laboratory investigations of physico-mechanical properties of rocks). Leningrad. Izd-vo Nedra, 1972, 312p.

Magoychenkov, M. A. Prakticheskoye posobiye po vzryvnym rabotam na ugol'nykh shakhtakh. (Operational manual for blasting in coal mines). Moskva. Izd-vo Nedra, 1971, 216p.

Meshbey, V. I., and Yu. R. Daderko. Method for measuring velocity of seismic wave propagation in the atmosphere. Otkr izobr, no. 19, 1972, no. 342156.

Mosinets, V. N. Deformatsiya gornykh porod vzryvom. (Explosive deformation of rocks). Frunze. Izd-vo Ilim, 1971, 188p.

Motsonelidze, N. S. Ustoychivost' i seysmostoykost' kontrforsnykh plotin. (Strength and earthquakeproof capacity of buttressed dams). Moskva, Izd-vo Energiya, 1971, 295p.

Osipenko, N. M. Linear mechanics of destruction of fissure rocks. IN: Sbornik. Fiziko-tekhnicheskoye issledovaniye razrabotki i obogashchenii rud. Moskva, 1972, 23-31. (RZhMekh, 8/72, no. 8V576)

Petkov, N., M. A. Iliyeva, K. D. Yordanski, and G. Ts. Chalykov. Applying a seismological method for investigations of the intermountain area of southwestern Bulgaria. DBAN, v. 25, no. 4, 1972, 491-494.

Petukhov, I. M. Procedures for studying and controlling mine shocks. IN: Sbornik. Issledovaniye proyavleniy gornykh davleniya na glubokikh gorizontakh shakht. Leningrad, 1971, 270-283. (RZhMekh, 8/72, no. 8V611)

Polshkov, M. K., G. V. Bereza, and Yu. R. Daderko. Method of seismic surveying. Otkr izobr, no. 19, 1972, no. 342151.

Rekomendatsii po proyektirovaniyu i proizvodstvu vzryvnym sposobom upravlyayemogo obrusheniya i rykhleniya ustupov, slozhennykh neskal'nymi porodami. (Recommendation on design and explosive method production of controlled caving and bench loosening of complex nonsliding rocks). Kiyev. Izd-vo Naukova dumka, 1971, 44p.

Seysmostoykost' gidrotekhnicheskikh sooruzheniy. (Seismic stability of hydraulic engineering constructions). Leningrad. Izd-vo Energiya, 1969, 189p.

Shipilenko, N. V., and I. P. Malyarov. Determining stress in mine roofing from explosions in quarries. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, 1969, 31-35.

Sidorov, N. N., and V. P. Sipidin. Sovremennyye metody opredeleniya kharakteristik mekhanicheskikh svoystv gruntov. (Currently used methods for determining mechanical properties of soils). Leningrad. Izd-vo Stroyizdat, 1972, 136p.

Togunov, Yu. V., and A. S. Il'in. Action of space-charge explosives in a solid medium. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 35-38.

Volin, A. P. Poperechnyye i obmennyye volny pri seysmorazvedke. Bibliografiya (1926-1969). (Transverse and composite waves during seismic surveying. Bibliography: 1926-1969). Novosibirsk, 1970, 208p.

Voprosy fiziki gornykh porod. (Physics of rocks. Collection of articles). Tbilisi. Izd-vo Metsniyereba, 1971, 94p.

Yefremov, E. I. Vzryvaniye s vnutriskvazhinnymi zamedleniyami. (Explosion with intra-borehole delay). Kiyev. Izd-vo Naukova dumka, 1971, 170p. (RZhMekh, 8/72, no. 8V634 K)

Zhabin, V. I. Method of sequential analogs for studying the mechanism of rock destruction by a drill. IN: Sbornik. Fiziko-tekhnicheskoye issledovaniye razrabotki i obogashchenii rud. Moskva, 1972, 69-76. (RZhMekh, 8/72, no. 8V577)

Zurkov, P. E., V. F. Bogatskiy, V. T. Ponomarev, and N. V. Shipilenko. Forecasting seismic effects of explosions in open-cut coal mines. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 18-21.

Zurkov, P. E., and N. A. Kokarev. Analysis of stability of chambers during explosive loading on lower levels in the Zlatoust' mine. IN: Deystviye promyshlennykh vzryvov na massiv gornykh porod i sooruzheniya. Magnitogorskiy gorno-metallurgicheskiy institut. Yuzhno-Ural'skoye knizhnoye izd-vo, no. 51, 1969, 26-31.

iv. Exploding Wire

Korotkov, V. A., G. A. Nesvetaylov, and V. K. Rakhuba. Optimization of electric explosion of wire. EOM, no. 3, 1972, 35-38.

v. Equations of State

Begoulev, P. B., and Yu. I. Shmakov. Rheologic equations of state for weak solutions of polymers with rigid ellipsoid macromolecules in the presence of an electric field. I-FZh, v. 23, no. 1, 1972, 88-93.

Ivakin, B. A., P. Ye. Suyetin, and V. S. Belousov. Determining a secondary virial coefficient from variations in volume during gas mixing. IN: Trudy Ural'skogo politekhnicheskogo instituta, no. 201, 1972, 95-97. (RZhKh 19ABV, 15/72, no. 15B646)

Juza, J., and O. Sifner. Equation of state for krypton at 120 to 423° K and O to 1000 bar. Acta Technica CSAV, no. 4, 1972, 380-401.

Lomakin, B. N., and V. Ye. Fortov. Equation of state of a nonideal cesium plasma. ZhETF, v. 63, no. 1, 1972, 93-103.

Avramenko, A. S., and K. P. Makhon'ko. Scavenging radioactive isotopes from the atmosphere. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 115-121.

Bel'skiy, A. M., and A. P. Khapalyuk. Propagation of spatially-limited pulse in an isotropic medium. ZhPS, v. 17, no. 1, 1972, 150-155.

Berlyand, O. S. Propagation of heavy contaminants in the atmosphere in the presence of obstacles (two-dimensional problem). IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 131-154.

Dmitriyeva, G. V., Ye. N. Davydov, Yu. V. Krasnopevtsev, S. G. Malakhov, and V. P. Martynenko. Atmospheric radioactivity over the oceans of the Southern Hemisphere and the Antarctic and relationship to meteorological factors. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva, Izd-vo Gidrometeoizdat, no. 5, 1970, 86-97.

Eksperimental'nyye issledovaniya atmosfery. (Experimental atmospheric research). Moskva. Izd-vo Gidrometeoizdat, 1971, 112p.

Fizika aerodispersnykh sistem. (Physics of aerodispersion systems. Collection of articles). Moskva. Izd-vo Gidrometeoizdat, 1972, 130p.

Fizika ionosfery i rasprostraneniye radiovoln. (Ionospheric physics and radio wave propagation. Collection of articles). Alma-Ata. Izd-vo Nauka, 1971, 174p.

Fizika oblakov. (Cloud physics. Collection of articles). Leningrad. Izd-vo Gidrometeoizdat, 1971, 211p.

Fizika oblakov i aktivnykh vozdeystviy. (Physics of clouds and cloud modification. Collection of articles). Moskva. Izd-vo Gidrometeoizdat, 1971, 134p.

Fizika pogranichnogo sloya atmosfery. (Physics of the atmospheric boundary layer. Collection of articles). No. 257. Leningrad, Izd-vo Gidrometeoizdat, 1970, 191p.

Fizika pogranichnogo sloya atmosfery. (Physics of the atmospheric boundary layer. Collection of articles). No. 282. Leningrad, Izd-vo Gidrometeoizdat, 1972, 239p.

Gal'perin, Yu. I., L. S. Gorn, and B. I. Khazanov. Izmereniye radiatsii v kosmose. (Radiation measurement in space). Moskva. Izd-vo Atomizdat, 1972, 343p.

Geofizicheskiye yavleniya v avroral'noy zone. (Geophysical phenomena in the auroral zone. Collection of articles). Leningrad. Izd-vo Nauka, 1971, 192p.

Interpretatsiya i ispol'zovaniye sputnikovykh dannykh v analize i prognoze pogody. (Interpretation and application of satellite observation data in weather forecasting. Collection of articles). Leningrad. Izd-vo Gidrometeoizdat, 1971, 148p.

Ionosfernyye issledovaniya. (Ionospheric research. Collection of articles). Moskva, Izd-vo Nauka, 1972, 213p. (RZhF, 6/72, no. 6Zh158 K)

Ionosfernyye vozmushcheniya i ikh vliyaniya na radiosvyaz'. (Effect of ionospheric disturbances on radio communication. Collection of articles). Moskva, Izd-vo Nauka, 1971, 240p.

Istomin, Ya. N., and V. I. Karpman. Nonlinear evolution of a quasi-monochromatic packet of spiral waves in plasma. ZhETF, v. 63, no. 1, 1972, 131-142.

Komrakov, G. P., L. A. Skrebkova, and A. V. Tolmacheva. Wave absorption in the ionosphere. IN: Sbornik. Ionosfernyye issledovaniya. Moskva, Izd-vo Nauka, no. 20, 1972, 55-62. (RZhF, 6/72, no. 6Zh166)

Kopytenko, Yu. A., O. M. Raspopov, V. A. Troitskaya, and R. Shlish. Analysis of stable geomagnetic pulsations of Pc4 type using network observations. Geomagnetizm i aeronomiya, no. 4, 1972, 720-726.

Korsunskiy, L. N. Rasprostraneniye radiovoln pri svyazi s iskusstvennymi sputnikami Zemli. (Wave propagation during communication with artificial earth satellites). Moskva, Izd-vo Sovetskoye radio, 1971, 207p.

Kozlov, L. V., M. D. Nusinov, A. I. Akishin, et al. Modelirovaniye teplovykh rezhimov kosmicheskogo apparata i okruzhayushcheyego sredy. (Modeling of thermal regimes in and around space vehicles). Moskva. Izd-vo Mashinostroyeniye, 1971, 380p.

Krasovskiy, V. I. Stili i shtormy v verkhney atmosfere. (Calm periods and storms in the upper atmosphere). Moskva, Izd-vo Nauka, 1971, 136p.

Kushtin, I. F. Refraktsiya svetovykh luchey v atmosfere. (Atmospheric refraction of light rays). Moskva, Izd-vo Nedra, 1971, 129p.

Magnitskiy, B. V., and B. A. Tverskoy. Vertical currents in conjugate points. Geomagnetizm i aeronomiya, no. 4, 1972, 708-711.

Meteorologiya pogranichnogo sloya atmosfery. (Meteorology of the atmospheric boundary layer. Collection of articles). Leningrad. Izd-vo Gidrometeoizdat, 1971, 183p.

Metody i tekhnika eksperimental'nykh issledovaniy atmosfery. (Methods and equipment for experimental research of the atmosphere. Collection of articles). Moskva. Izd-vo Gidrometeoizdat, 1971, 58p.

Moskalenko, N. I., and S. O. Mirumyants. Issledovaniya pogloshcheniya infrakrasnoy radiatsii atmosfernymi gazami pri povyshennykh davleniyakh i temperaturakh. (Infrared radiation absorption by atmospheric gases at high pressures and temperatures). IAN SSSR. Fizika atmosfery i okeana. 1972, 47p. (RZhF, 6/72, no. 6D468 DYeP)

Nazarov, L. Ye., S. G. Malakhov, Ya. I. Gaziyev, and A. S. Vasil'yev. Longitudinal and meridional distribution of tropospheric concentrations of beta-active nuclear explosion products. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 84-86.

Nurgozhin, B. I. Angular incidence of radio waves in large-scale ionospheric inhomogeneities. Geomagnetizm i aeronomiya, no. 4, 1972, 761-763.

Pavlovskaya, E. A., and B. N. Dobzhinskiy. Experimental investigation of statistical properties of tropospheric bandpass channels. IN: Trudy uchebnykh institutov svyazi, no. 52, 1970, 3-8. (LZhS, 27/72, no. 88504)

Problemy fiziki oblakov i aktivnykh vozdeystviy. (Cloud physics and cloud modification. Collection of articles). Moskva. Izd-vo Gidrometeoizdat, 1970, 136p.

Protsessy v vysokikh sloyakh atmosfery. (Processes in upper atmospheric layers. Collection of articles). No. 99. Moskva, Izd-vo Gidrometeoizdat, 1971, 171p.

Pyatsi, A. Kh., and Yu. L. Sverdlov. Geometry of auroral wave reflection. IN: Sbornik. Geofizicheskiye issledovaniya v zone polyarnykh siyaniy. Apatity, 1972, 110-113. (RZhF, 6/72, no. 6Zh458)

Radioaktivnost' atmosfery. (Atmospheric radioactivity. Conference papers, Obninsk, 30 July - 2 August 1968). Moskva. Izd-vo Gidrometeoizdat, 1970, 132p.

Radiofizika i rasprostraneniye elektromagnitnykh voln. (Radiophysics and wave propagation. Collection of articles). Trudy Universiteta Patrisa Lumumby. Moskva, v. 47, no. 5, 1970, 171p.

Rasseyaniye i pogloshcheniye sveta v atmosfere. (Light scattering and absorption in the atmosphere. Collection of articles). Alma-Ata, Izd-vo Nauka, 1971, 148p.

Sobolev, V. V. Rasseyaniye sveta v atmosferakh planet. (Light scattering in planetary atmospheres). Moskva. Izd-vo Nauka, 1972, 335p.

Sredneye dvizheniye i gorizontal'naya makroturbulentnost' v atmosfere. (Mean motion and horizontal macroturbulence in the atmosphere. Collection of articles). No. 75. Moskva, Izd-vo Gidrometeoizdat, 1971, 103p.

Svechnikov, A. M., Yu. N. Fayer, and S. S. Chavdarov. Results of wave absorption measurements in the ionosphere. IN: Sbornik. Ionosfernyye issledovaniya. Moskva. Izd-vo Nauka, no. 20, 1972, 51-54. (RZhF, 6/72, no. 6Zh165)

Tkachev, G. N., and V. T. Rozumenko. Faraday effect in incoherent scattering of radar signals. Geomagnetizm i aeronomiya, no. 4, 1972, 657-661.

Turbulentnost' i konvektsiya v atmosfere. (Atmospheric turbulence and convection. Collection of articles). No. 97. Moskva. Izd-vo Gidrometeoizdat, 1970, 136p.

Vinogradov, A. I., A. L. Devirts, E. I. Dobkina, B. I. Ogorodnikov, and I. V. Petryanov. Stratospheric concentration of C^{14} in 1967-1969. DAN SSSR, v. 205, no. 4, 1972, 824-826.

Volokitina, L. A., A. F. Kuzenkov, S. G. Malakhov, and E. S. Shulepko. Vertical distribution of atmospheric concentrations of radioactive isotopes over the Moscow region and Tbilisi in 1963-1965. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 75-83.

Voprosy chislennykh metodov analiza atmosfernykh protsessov. (Numerical analyses of atmospheric processes. Collection of articles), no. 58. Leningrad, Izd-vo Gidrometeoizdat, 1971, 127p.

Zilitinkevich, S. S., and A. S. Monin. Turbulentnost' v dinamicheskikh modelyakh atmosfery. (Turbulence in dynamic atmospheric models). Leningrad. Izd-vo Nauka, 1971, 44p.

Zuyev, V. Ye., A. V. Sosnin, and S. S. Khmelevtsov. Attenuation of ruby laser radiation in the surface boundary layer from temperature retuning of its wavelength. ZhPS, v. 17, no. 2, 1972, 361-363.

vii. Miscellaneous Explosion Effects

Afonin, V. G., L. M. Geyman, and V. M. Komir. Vzryvnyye raboty v stroitel'stve. (Blast operations in construction. Brief handbook). Kiyev. Izd-vo Budivel'nik, 1971, 175p.

Atroshchenko, E. S., V. A. Kosovich, B. P. Lipovatyy, V. S. Sedykh, and M. Kh. Shorshorov. Characteristics of plastic deformation from explosive compacting of metal powders. FiKhOM, no. 4, 1972, 113-118.

Bashtovoy, V. G., B. M. Berkovskiy, and A. K. Sinitsyn. Heat convection from an explosion in a ferromagnetic liquid. Magnitnaya gidrodinamika, no. 1, 1972, 12-18. (RZhMekh, 8/72, no. 8B37)

Boykov, N. A., P. S. Zvezdin, and L. B. Reznik. Investigation of processes of explosive transmission through various explosion protection aids. IN: Sbornik nauchnykh trudov VNI proyektno-konstruktorskogo i tekhnologicheskogo instituta vzryvozashchishchnogo i rudnichnogo elektrooborudovaniya, no. 8, 1971, 14-18. (LZhS, 27/72, no. 88107)

Brendakov, V. F., A. V. Dibtseva, V. I. Svishcheva, and V. N. Churkin. Vertical distribution and mobility estimate of nuclear explosion products in various soils of the Soviet Union. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 143-146.

Dimza, G. V. Detonation of saturated explosives in small charges. FGiV, no. 2, 1972, 306-310.

Gushchin, V. I. Spravochnik vzryvnika na kar'yere. (Handbook for a quarry blaster. Second edition, revised). Moskva. Izd-vo Nedra, 1971, 222p.

Ivanov, A. I., I. Naumenko, and M. Pavlov. Raketno-yadernoye oruzhiye i yego porazhayushcheye deystviye. (Nuclear rocket weaponry and its destructive effects). Moskva. Izd-vo Voyenizdat, 1971, 224p.

Karol', I. L. Stratospheric fallout of nuclear explosion radioactive products on the mainland and oceans in temperate latitudes of the Northern Hemisphere. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 42-62.

Khotin, V. G. Konspekt lektsiy po kursu Primeneniye vzryvchatykh veshchestv. Ch. 1. Elementy fiziki vzryva. Osnovy teorii i nekotoryye eksperimental'nyye dannyye o deystvii vzryva. (Compendium of lectures from a course on application of explosives. Part 1: Elements of the physics of explosions. Theoretical and experimental data on behavior of explosions). Moskva, 1969, 208p.

Kirichenko, L. V. Role of directional transfer in penetration of soil depths by nuclear explosion products entering the soil surface from the atmosphere. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva, Izd-vo Gidrometeoizdat, no. 5, 1970, 147-154.

Kochetov, P. P., and N. N. Lyulicheva. Mechanical properties of low carbon steels following hot explosive deformation. IN: Sbornik. Impul'snaya obrabotka metallostaticheskim davleniyem, no. 1, 1970, 73-78. (RZhMekh, 8/72, no. 8V912)

Kushnarev, D. M., and M. P. Belikov. Vzryvnyye raboty v gidromeliorativnom i sel'skom stroitel'stve. (Blasting in hydro-reclamation and agricultural construction). Moskva. Izd-vo Stroyizdat, 1972, 223p.

Kuznetsov, G. V., V. P. Ulybin, and Yu. I. Shalayev. Maintenance of seismic safety of buildings and structures on permafrost foundations during large scale explosions. Kolyma, no. 3, 1972, 34-36. (RZhMekh, 8/72, no. 8V536)

Lovlya, S. A. Vzryvnyye raboty v vodozabornykh skvazhinakh. (Explosive operations in water scoop boreholes). Moskva. Izd-vo Nedra, 1971, 121p.

Malakhov, S. G., and I. B. Pudovkina. Precipitation and distribution of strontium-90 fallout in temperate latitudes of Northern Hemisphere. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 63-74.

Manets, F. I., P. F. Sevost'yanov, A. F. Dudnikov, and A. A. Kondrashov. Zashchita ot oruzhiya massovogo porazheniya. (Protection against massive destruction weaponry. Second edition, revised). Moskva. Izd-vo Voyenizdat, 1971, 256p.

Myach, L. T. Field structure of surface concentration of total beta-activity from nuclear explosion products. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 97-102.

Ponomarev, V. T., and Yu. I. Dovgosheya. Calculation of weather effects during investigations and forecasting of air shock wave parameters from massive explosions in quarries. IN: Sbornik. Magnitogorskiy gorno-metallurgicheskiy institut, no. 98, 1972, 62-70. (RZhMekh, 8/72, no. 8B317)

Rossi, B. D., and Z. G. Pozdnyakov. Promyshlennyye vzryvchatyye veshchestva i sredstva vzryvaniya. Spravochnik. (Handbook on explosives and blasting techniques). Moskva. Izd-vo Nedra, 1971, 176p.

Trofimov, N. I. Effects of an explosion in an elastoplastic space. Problem of a delayed weak plastic loading wave. IN: Trudy NII matematiki Voronezhskogo universiteta, no. 4, 1971, 92-96. (LZhS, 29/72, no. 95458)

Tsevelev, M. A., P. I. Chalov, and K. P. Makhon'ko. Study of principles of radioactive fission products scavenging from mountains and foothills. IN: Trudy. Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 102-115.

Tsevelev, M. A., and K. P. Makhon'ko. Characteristics of radioactive fallout distribution in mountain areas. IN: Trudy, Institut eksperimental'noy meteorologii. Moskva. Izd-vo Gidrometeoizdat, no. 5, 1970, 122-131.

Yefremov, E. I. Vzryvnyye s vnutriskvazhinnymi zamedleniyami. (Explosions with inner borehole delay). Kiyev. Izd-vo Naukova dumka, 1971, 170p.

Yerokhin, A. V., N. N. Kazak, V. S. Sedykh, Yu. P. Trykov, and A. I. Ulitin. Properties of Ti-Al compounds obtained by explosive welding. Svarochnoye proizvodstvo, no. 7, 1972, 26-27.

3. Geosciences

A. Recent Selections

Akhmedov, A. K. The relationship between the attenuation coefficient and propagation velocity of compressional waves. AN Azer SSR. Izvestiya. Seriya nauk o zemle, no. 1, 1972, 53-56.

Alekseyev, B. V., E. G. Zhil'tsov, A. A. Suvorov, and A. A. Kulikov. New data on the deep crustal structure in the region of the southern Kurile Islands. Geologiya i geofizika, no. 4, 1972, 107-114.

Boborykin, A. M. Study of the possibility of the transmission of earthquake energy into the ionosphere by gravity-acoustic oscillations generated near the epicenter. AN BelSSR. Doklady, v. 16, no. 4, 1972, 355-358.

Chikov, B. M. Deep-seated fault zones in the folded regions of the northeastern sector of Asia. Geologiya i geofizika, no. 5, 1972, 38-48.

Gogonenkov, G. N. Raschet i primeneniye sinteticheskikh seysmogram (Computation and application of synthetic seismograms). Moskva, Izd-vo Nedra, 1972, 139p.

Guterman, V. G., and Ya. B. Sigalov. Construction of a mathematical model of the deformed and stressed state of bodies, occurring in first-order phase transition. AN UkrSSR. Geofizicheskiy sbornik, no. 46, 1972, 88-94.

Ivashchenko, A. I., and A. A. Poplavskiy. Long-range forecasting of tsunamis. Priroda, no. 7, 1972, 110-111.

Kiseleva, L. G. The nature of seismic waves in the area of the Khankayskiy massif. Geologiya i geofizika, no. 5, 1972, 96-105.

Klem-Musatov, K. D., G. L. Kovalevskiy, and L. R. Tokmulina. Intensity of waves diffracted on an edge. Geologiya i geofizika, no. 5, 1972, 82-92.

Kutas, V. V. Evaluation of the effective attenuation coefficient of compressional waves in the mantle. AN UkrSSR. Geofizicheskiy sbornik, no. 46, 1972, 80-84.

Menaker, G. I. Problem of the deep structure of Transbaykal and Cisbaykal. Geologiya i geofizika, no. 5, 1972, 93-96.

Rezanov, I. A. Milestone in crustal studies by seismic methods. AN SSSR. Izvestiya. Seriya geologicheskaya, no. 8, 1972, 124-128.

Schmidt, P. On the problem of earthquake prediction: an international reference bibliography for the period 1960-1969. IN: Academia Scientiarum Hungaricae. Acta Geodaetica, Geophysica et Montanistica, v. 6, nos. 3-4, 1971, 449-457.

4. Particle Beams

A. Recent Selections

Annayev, R. G., and L. L. Mel'nikova. Transmission spectrum is n-GaSb irradiated by fast electrons. IAN Turk, no. 1, 1972, 95-96. (RZhF, 6/72, no. 6Ye1268)

Aref'yev, V. I., and K. P. Kirdyashev. High-frequency instability in plasma with a nonlinear iono-acoustic wave. ZhTF, no. 7, 1972, 1357-1365.

Averin, V. G., A. I. Karchevskiy, and G. V. Yurkin. Stimulated emission with pulsed electron beam pumping, formed in a direct discharge. ZhETF, v. 63, no. 1, 1972, 85-91.

Bakhrakh, L. E., Ye. L. Zolotarev, and V. V. Murzin. Effect of local inhomogeneities in a periodic magnetic field on electron beam pulsations. RiE, no. 7, 1972, 1479-1486.

Bashkatov, A. V., V. S. Glotov, F. N. Ryzhkov, and A. A. Uglov. Effect of hydrodynamic phenomena in a welding bath on seam formation during electron-beam welding. FiKhOM, no. 4, 1972, 3-9.

Belyayev, V. N. Energy loss of an electron beam with power to 10 kw in an electron gun. FiKhOM, no. 4, 1972, 129-131.

Bichkov, Yu. I., P. A. Gavrilyuk, and Yu. D. Korolev. Issledovaniye razvitiyz i razryada nanosekundnogo diapazona v atmosfernykh usloviyakh. (Investigation of nanosecond discharge development under atmospheric conditions). IN: 10th Int. Conf. Phenomena of Ioniz. Gases, Oxford, 1971, 168p. (RZhMekh, 8/72, no. 8B167)

Bochek, S. A., R. A. Volchenkova, G. V. Levchenko, N. A. Roy, and O. K. Teodorovich. Erosion of electrode materials during electric discharges in a conductive fluid. EOM, no. 3, 1972, 66-68.

Bogdankevich, L. S., O. V. Dolzhenko, and A. A. Rukhadze. Excitation of e-m waves in a plasma by a relativistic electron beam. RiE, no. 8, 1972, 1646-1652.

Borukhov, M. Yu., I. K. Bek-Bulatov, L. L. Lukashevich, R. B. Nagaybekov, and N. Umurzakov. Modelling of field amplification processes in cathode micro-irregularities during arc discharge in vacuum. ZhTF, no. 7, 1972, 1504-1507.

Boyko, V. A., V. V. Kushin, N. I. Uksusov, and A. M. Shmygov. Two stages of discharge development in volume-charged media. ZhTF, no. 7, 1972, 1500-1508.

Burchenko, P. Ya., Ye. D. Volkov, N. A. Manzyuk, V. A. Suprunenko, and A. A. Sukhomlin. Turbulent current heating of plasma in a magnetic field. ZhTF, no. 7, 1972, 1540-1541.

Bystrov, L. N., L. I. Ivanov, V. G. Koveshnikov, and Yu. M. Platov. Acceleration of stress relaxation in silver under electron irradiation. FiKhOM, no. 4, 1972, 15-17.

Chikhachev, A. S. On the theory of induced synchrotron acceleration of relativistic particles by electromagnetic radiation. IN: Sbornik. Fizika plazmy. Moskva. Atomizdat, no. 3, 1971, 90-96. (RZhF, 6/72, no. 6G195)

Dolbilov, G. V., V. P. Sarantsev, and A. P. Sumbayev. Low pressure performance of a cold cathode. ZhTF, no. 7, 1972, 1492-1499.

Dudko, G. V., M. M. Myshlyayev, and N. V. Severin. Characteristics and distribution of defects generated in silicon by electron beam heating. EOM, no. 3, 1972, 33-35.

Gabovich, M. D. Fizika i tekhnika plazmennykh istochnikov ionov. (Physics and technology of ion plasma sources). Moskva, Atomizdat, 1972, 304p.

Granovskiy, V. L. Elektricheskiy tok v gaze. Ustanovivshiysya tok. (Electric current in gas. Steady-state current). Moskva. Izd-vo Nauka, 1971, 543p.

Ivanov, Yu. S., V. V. Ryukkert, G. V. Sklizkov, and S. I. Fedotov. Radiation source for x-raying a laser plasma. ZhTF, no. 7, 1972, 1423-1428.

Kaganskiy, M. G., V. A. Ovsyannikov, and S. S. Tyul'panov. Fast radial displacement of a toroidal plasma column by a transverse magnetic field. FTT, no. 7, 1972, 1537-1539.

Kirichenko, G. S., and V. G. Khmaruk. Collisionless heating of ions in plasma by an ion beam. ZhETF, v. 63, no. 7, 1972, 107-111.

Kitsenko, A. B., and V. I. Panchenko. Excitation of potential plasma oscillations by phased oscillator flux. UFZh, v. 17, no. 7, 1972, 1066-1073.

Komar, A. P. Izmereniye polnoy energii puchkov tormoznogo izlucheniya ot elektronnykh uskoriteley. (Measurement of total beam energy of bremsstrahlung from electron accelerators). Leningrad. Izd-vo Nauka, 1972, 172p.

Korenblyum, M. V. Relationship of the surface roughness value to the duration and amplitude of pulsed discharge current during electro-erosion processing. FiKhOM, no. 4, 1972, 135-138.

Kosachev, V. V. Lateral permittivity of a completely degenerated electron plasma. IN: Sbornik. Fizika plazmy. Moskva. Atomizdat, no. 3, 1971, 85-89. (RZhF, 6/72, no. 6G239)

Kozlov, A. A., V. A. Nikiforov, S. F. Perelygin, and V. V. Sizov. Investigating the dynamics of a rarified plasma in crossed axisymmetric fields with an external source and sectioned electrodes. IN: Sbornik. Fizika plazmy. Moskva, Atomizdat, no. 3, 1971, 15-31. (RZhF, 6/72, no. 6G337)

Krivitskiy, Ye. V. Resistance of expanding channel in an underwater spark discharge. EOM, no. 3, 1972, 69-71.

Lapidus, L. I., Yu. A. Plis, V. P. Sarantsev, and L. M. Soroko. Method of obtaining polarized ion beams. Author's certificate, USSR no. 316420, published December 6, 1971. (RZhF, 6/72, no. 6A401P)

Lavrovskiy, V. A., A. I. Rogashkova, I. F. Kharchenko, and M. B. Tseytlin. Three-dimensional pattern of instability development during the interaction of a modulated electron beam with a plasma. RiE, no. 8, 1972, 1766-1768.

Lineynyye i kol'tsevyye uskoriteli zaryazhennykh chastits. (Linear and circular charged particle accelerators. Collection of articles). Moskva, 1970, 126p.

Magalinskiy, V. B. Dense electron beam in a quadrupole pumping field. RiE, no. 8, 1972, 1691-1696.

Mkheidze, G. P., V. I. Pulin, M. D. Rayzer, and L. E. Tsopp. Limiting current of an uncompensated relativistic electron beam. ZhETF, v. 63, no. 1, 1972, 104-106.

Nekotoryye voprosy issledovaniya gazorazryadnoy plazmy i sozdaniya sil'nykh magnitnykh poley. (Problems of investigating a gas-discharge plasma and generating strong magnetic fields). Leningrad. Izd-vo Nauka, 1970, 172p.

Orazberdyyev, Kh. Theory of motion of charged particles in a linearly nonuniform magnetic field. IAN Turk, no. 4, 1972, 18-25.

Pargamanik, L. E., V. V. Rozhkov, R. G. Eylanbekov, M. Ya. Mints, V. I. Boyko, M. Ya. Granovskiy, V. B. Lysikov, and A. V. Kats. Calculation of a wall-stabilized axisymmetric electric arc in hydrogen. IN: Trudy Khar'kov. NII metrol. Moskva, 1970, 13-26. (RZhF, 6/72, no. 6G130)

Pasichnyy, A. A. Investigating nucleus shell structure during inelastic scattering of high energy electrons. UFZh, v. 17, no. 7, 1972, 1139-1147.

Perelygin, S. F., V. V. Sizov, and V. M. Smirnov. Theoretical analysis of ion acceleration in crossed axisymmetrical fields with an external source and sectioned electrodes. IN: Sbornik. Fizika plazmy. Moskva. Atomizdat, no. 3, 1971, 3-14. (RZhF, 6/72, no. 6G336)

Plis, Yu. A., and Ye. D. Donets. Method for obtaining polarized ion beams. Author's certificate, USSR no. 312398, published October 4, 1971. (RZhF, 6/72, no. 6A367P)

Popov, I. L. The limiting kinetic energy of charged relativistic particles. DAN Tadzh, v. 15, no. 6, 1972, 28.

Sedlacek, Z. Effect of inhomogeneity on electrostatic oscillations of multivelocity electron flow. Czech. J. phys. v. 22, no. 1, 1972, 67-76. (RZhF, 6/72, no. 6G254)

Semkin, B. V., and D. D. Khalilov. Analysis of energetic discharge characteristics of a capacitive electric energy storage for an arc gap. EOM, no. 3, 1972, 38-41.

Sena, L. A., L. I. Pranevichyus, and G. N. Fursey. Microprotrusions role in the formation and burning of a vacuum arc. IN: 10th Int. Conf. Phenom. of Ioniz. Gases, Oxford, 1971. IOS. (RZhMekh, 8/72, no. 8B142)

Smiyan, O. D., A. G. Kruzhkov, V. N. Tovmachenko, and B. N. Kolomiychuk. Features of the ionization of a substance under bombardment by an intensive electron beam. RiE, no. 7, 1972, 1465-1470.

Teoriya kogerentnogo uskoreniya chastits i izucheniya relyativistskikh puchkov. (Theory of particle coherent acceleration and the study of relativistic beams. IN: Trudy fizicheskogo instituta im P. N. Lebedeva, Moskva. Izd-vo Nauka, v. 66, 1972. (Atomnaya energiya, v. 33, no. 1, 1972, 605)

Vakhrushin, Yu. P., and V. K. Gagen-Torn. Selecting the parameters of an electrically conductive coating for the accelerator tube of a linear induction accelerator. ZhTF, no. 7, 1972, 1446-1451.

Vecheclavov, V. V., V. I. Kononov, and I. N. Meshkov. Pierce-type electrodes for cylindrical relativistic electron beams. RiE, no. 8, 1972, 1775-1778.

Vlasov, A. D., and B. I. Bondarev. Quadrupole focusing by an accelerating field in linear accelerators with high currents. IN: Trudy Radiotekhn. in-ta AN SSSR, no. 7, 1971, 124-139. (LZhS, 27/72, no. 87484)

Voronov, V. I., V. P. Kartashev, and R. A. Rzayev. Transportirovka polyarizovannykh puchkov zaryazhennykh chastits. (Transport of polarized charged particle beams). Serpukhov, 1971, 14p. (RZhF, 6/72, no. 6A403)

Zakharkin, R. Ya., and A. V. Pustogarov. A 1 megawatt hydrogen plasmatron. I-FZh, v. 23, no. 1, 1972, 82-87.

Zaytsev, L. N., M. M. Komochkov, and B. S. Sychev. Osnovy zashchity uskoriteley. (Fundamentals of accelerator shielding). Moskva, Atomizdat, 1971, 398p.

Zenkevich, P. R., D. G. Koshkarev, and E. A. Perel'shteyn. Instability of axial oscillations in a ring electron accelerator. Atomnaya energiya, v. 33, no. 1, 1972, 567-571.

Zhileyko, G. I., L. M. Movsisyan, and V. V. Sindinskiy. Effective field in an irregular decelerating system with dynamic slip between particle bunches and the wave. IAN Arm, Seriya fizika, no. 7, 1972, 150-156.

5. Material Science

A. Recent Selections

i. Crack Propagation

Arone, R. G., and Ye. M. Dashevskiy. Determining K_{1c} of plastic steels. Problemy prochnosti, no. 7, 1972, 10-14.

Artykova, S. I. Investigation of crack system in a nonuniform stress state. IAN Kirgizskoy SSR, no. 4, 1972, 44-49.

Berdichevskiy, G. I., and N. Ya. Sapozhnikov. Strength of bending reinforced concrete structures in terms of crack resistance. IN: Sbornik. Teoriya zhelezobetona, Moskva, 1972, 19-27. (RZhMekh, 8/72, no. 8V754)

Gorchakov, G. I., and V. P. Mikhaylovskiy. Calculation of crack resistance of panel and block finished layers. Beton i zhelezobeton, 1972, no. 5, 26-27. (RZhMekh, 8/72, no. 8V775)

Guz', I. S., and V. M. Finkel'. Relationship of wave spectra generated by a propagating crack to the elastic energy stored in the crack terminus. FTT, no. 7, 1972, 1865-1869.

Karpenko, N. I. Theoretical investigation of deformation of reinforced concrete plates and shells with cracks under complex reinforcement. IN: Sbornik. Vozdeystviye staticheskikh, dinamicheskikh i mnogokratno povtoryayushchikhsya nagruzok na beton i elementy zhelezobetonnykh konstruktsiy. Moskva, Izd-vo Stroyizdat, 1972, 131-158. (RZhMekh, 8/72, no. 8V770)

Katsenbogen, R. A., and A. B. Golyshev. Calculation of reinforced concrete rod system in stage II (with cracks in the expanding zone). IN: Sbornik. Soprotivleniye materialov i teoriya sooruzhenii, no. 16, 1972, 290-292. (RZhMekh, 8/72, no. 8V750)

Keras, V. K., M. P. Sapagovas, and A. Yu. Shuminas. Kinetics of stress distribution during propagation of a mainline crack in a rectangular plate, compressed by local edge loads. IN: Trudy 2-y Vsesoyuznaya konferentsiya po chislennym metodam resheniya zadach teorii uprugosti i plastichnosti. Novosibirsk, 1971, 142-155. (RZhMekh, 8/72, no. 8V442)

Kireyenko, O. F., A. M. Leksovskiy, and V. R. Regel'. Fractrographic determination of conditions for transition to brittle failure in polymers. Problemy prochnosti, no. 7, 1972, 60-63.

Kit, G. S., and O. V. Poberezhnyy. Determining stationary temperature distribution in a plate with a crack and heat transfer from lateral surfaces. I-FZh, v. 23, no. 1, 1972, 126-131.

Kolgadin, V. A. Crack formation in orthogonally-reinforced glass plastics. Problemy prochnosti, no. 8, 1972, 36-41.

Moskvin, V. M., S. N. Alekseyev, G. P. Verbetskiy, and V. I. Novgorodskiy. Treshchiny v zhelezobetone i korroziya armatury. (Cracks in reinforced concrete and corrosion of fixtures). Moskva, Izd-vo Stroyizdat, 1971, 144p.

Nagulin, N. I., and N. B. Romalis. Torsion of a circular rod having a crack along a circumferential arc. IN: Trudy Nauchno-issledovatel'skogo instituta matematiki Voronezheskogo universiteta, no. 4, 1971, 133-136. (LZhS, 29/72, no. 95443)

Neshpor, G. S., V. G. Kudryashov, and P. G. Miklyayev. Effect of stress condition on propagation of fatigue cracks in D16T type alloy sheet samples. Problemy prochnosti, no. 8, 1972, 66-68.

Reminets, G. M., A. Ya. Barashnikov, and L. A. Murashko. Calculation of reinforced concrete framework structures with cracks in the testing phase. IN: Sbornik. Stroitel'nyye konstruktsii, no. 20, 1972, 93-99. (RZhMekh, 8/72, no. 8V782)

Romalis, N. B. Coefficient of stress intensity in a crack terminus under plate tension. IN: Trudy NII matematiki Voronezhskogo universiteta, no. 4, 1971, 136-139. (LZhS, 29/72, no. 95447)

Savruk, M. P. Interaction of arbitrarily oriented rectilinear cracks. PM, no. 7, 1972, 121-124.

Sobolev, N. D., Ye. M. Morozov, V. M. Markochev, V. Yu. Gol'tsev, V. T. Sapunov, and A. P. Bobrinskiy. Experimental and theoretical investigation of crack failure of sheet materials. Problemy prochnosti, no. 7, 1972, 45-49.

Stol'nikov, V. V., and R. Ye. Litvinova. Treshchinostoykost' betona. (Crack resistance of concrete.) Moskva, Izd-vo Energiya, 1972, 113p.

Vladimirov, V. I., and Sh. Kh. Khannanov. Effect of boundary interaction on crack formation. IN: Trudy LPI, no. 322, 1971, 12-17.

Vladimirov, V. I., A. N. Orlov, and V. A. Petrov. Fracture kinetics of solids. IN: Trudy LPI, no. 322, 1971, 4-12.

Zaytsev, L. N. Crack formation, deformation and support strength of solid reinforced concrete slabs. IN: Sbornik. Vozdeystviye staticheskikh, dinamicheskikh i mnogokratno povtoryayushchikhsya nagruzok na beton i elementy zhelezobetonnykh konstruktsiy. Moskva, Izd-vo Stroyizdat, 1972, 106-130. (RZhMekh, 8/72, no. 8V774)

ii. High Pressure Research

Brekhovskikh, S. M., V. A. Tyul'kin, and I. N. Palandov. Radiation paramagnetic defects in alkali-silicate glass under high quasi-hydrostatic pressure. Structure of hole defects. ZhPS, v. 17, no. 2, 1972, 318-324.

Buryak, V. P., A. A. Gass, and I. V. Karpenko. Measurement of high pressures during hydroextrusion. IT, no. 8, 1972, 85-86.

Golikov, V. M., M. A. Matosyan, and E. I. Estrin. Diffusion of carbon in plastically deformed and hydrostatically stressed metals. IN: Sbornik. Metod izotopicheskikh indikatorov v nauchnykh issledovaniy i v promyshlennom proizvodstve. Moskva, Izd-vo Atomizdat, 1971, 57-60. (RZhF, 6/72, no. 6Yel374)

Guseva, I. P., and S. N. Novikov. Application of mercury porosimetry method for study of glass fiber surface structure during various treatment processes. FiKhOM, no. 4, 1972, 152-157.

Issledovaniya v oblasti vysokikh davleniy. (High pressure research. Collection of articles). Moskva, Izd-vo standartov, 1969, 187p.

Kirtovskaya, G. I., I. F. Kaymin', V. P. Karlivan, and N. V. Brinkus. Dilatometric and thermomechanical properties of modified polyethylene. Vysokomolekulyarnyye soyedineniya, no. 8, 1972, 1843-1846.

Kutsar, A. R., and A. V. Shalimova. High hydrostatic pressure curing of pores in copper. FMM, no. 6, 1972, 1322-1324.

Mylov, V. P., G. G. Leonidova, and B. R. Churagulov. First order phase transitions in Rochelle salt at high pressures. FTT, no. 7, 1972, 2184-2185.

Timofeyev, Yu. A., Ye. N. Yakovlev, A. N. Ageyev, A. G. Gurevich, and A. Ya. Ivenin. Splitting of angular maxima of ΔH in yttrium garnet with a Pr additive under pressure effects. ZhETF P, v. 16, no. 3, 1972, 124-126.

Tokiy, V. V., and V. I. Zaytsev. Hydrostatic pressure effect on dislocations. PSS(a), v. 12, no. 53, 1972, 53-60.

Vinokurova, L. I., Ye. I. Kondorskiy, V. Yu. Ivanov, and Kh. Rakhimova. Pressure influence on Hall effect in rare earth metals. IAN Fiz, no. 7, 1972, 1419-1422.

Volchkevich, T. A., and L. Yu. Maksimov. Hydrostatic pressure effect on deposition of low-plasticity materials. FiKhOM, no. 4, 1972, 92-95.

Zhulin, V. M., A. R. Volchek, N. G. Gonikberg, A. S. Shashkov, and S. V. Zotova. Radical and cation polymerization of isopropenylcyclopropane at pressures to 14,000 kg/cm^2. Vysokomolekulyarnyye soyedineniya, no. 7, 1972, 1484-1490.

iii. High Temperature Research

Altunin, V. V. Thermophysical properties of carbon dioxide in liquid-vapor equilibrium lines. I-FZh, v. 23, no. 2, 1972, 367.

Avgustinik, A. I., S. M. Kats, S. S. Ordan'yan, A. I. Gorin, and L. V. Kudryasheva. Compression creep in ZrC-NbC solid solutions at temperatures of 2600 to 3150°K. NM, no. 8, 1972, 1417-1420.

Babenya, L. A., and Ye. P. Trukhan. Calculation of absorption coefficients of CO_2 continuous spectrum in the temperature interval 20,000 to 100,000°K. ZhPS, v. 17, no. 1, 1972, 20-24.

Bakhir, L. P., G. I. Levashenko, and V. V. Tamanovich. Infrared radiation measurement of temperature of flames containing particle scattering. ZhPS, v. 17, no. 1, 1972, 25-32.

Bessonov, A. F. Investigation of phase transition from heating of $MgO-Fe_2O_3-CaO-Al_2O_3-SiO_2$ oxide mixtures. NM, no. 8, 1972, 1455-1458.

Blashchuk, V. Ye., A. G. Voynitskiy, V. F. Grabin, S. M. Gurevich, V. V. Kas'yan, and N. V. Novikov. Low and high temperature resistivity of deformed type AT-2 and AT-3 titanium alloys and welded joints. Problemy prochnosti, no. 7, 1972, 96-99.

Chaykovskiy, E. F., and V. T. Sotnikov. Plasma excitation of valence electrons in laminar single crystals of molybdenum, and correlation of optical properties in the vacuum ultraviolet region. IN: Sbornik. Monokristally i tekhnika. Khar'kov, no. 5, 1971, 112-115. (RZhF, 6/72, 6Yel493)

Chechetkin, A. V. Vysokotemperaturnyye teplonositeli. (High temperature thermal conductors. Third edition, revised and expanded). Moskva, Izd-vo Energiya, 1971, 496p.

Dushin, Yu. A., L. I. Yemel'yanova, V. A. Zemlyankin, and Ye. I. Katin. High temperature effect of carbon-contaminated argon interaction with metals. FiKhOM, no. 4, 1972, 157-159.

Fizicheskaya khimiya poverkhnostnykh yavleniy pri vysokikh temperaturakh. (Physical chemistry of high temperature surface phenomena. Collection of articles). Kiyev, Izd-vo Naukova dumka, 1971, 299p.

Fizika tverdogo tela i termodinamika. (Solid state physics and thermodynamics. Collection of articles). Novosibirsk, Izd-vo Nauka, 1971, 237p.

Frolov, Yu. V., P. F. Pokhil, and V. S. Logachev. Ignition and combustion of powdered aluminum in high temperature gas media, and composition of heterogeneous condensed systems. FGiV, no. 2, 1972, 213-236.

Kamenshchikov, V. A., Yu. A. Plastinin, V. M. Nikolayev, and L. A. Novitskiy. Radiatsionnyye svoystva gazov pri vysokikh temperaturakh. (High temperature radiation properties of gases). Moskva, Izd-vo Mashinostroyeniye, 1971, 440p.

Koshkin, V. K., and E. K. Kalinin. Teploobmennyye apparaty i teplonositeli. Teoriya i raschet. (Heat transfer devices and conductors. Theory and calculations). Moskva, Izd-vo Mashinostroyeniye, 1971, 200p.

Kotomina, R. A. Calculation of affinity constant of uranium ionization and level of uranium plasma ionization. IVUZ Khim i khim tekh, no. 7, 1972, 1111-1112.

Livshits, B. G., V. M. Yuferov, and Yu. D. Litinskiy. Transitions in martensite-ferritic steels during high temperature dynamic compression. IAN Met, no. 4, 1972, 194-198.

Lutkov, A. I., V. I. Volga, B. K. Dymov, E. Yu. Lukina, and P. V. Tamarin. Thermal and electrical properties of pyrolytic graphite. NM, no. 8, 1972, 1409-1416.

Nikitenko, N. I. Issledovaniye nestatsionarnykh protsessov teplo- i massoobmena metodom setok. (Method of nets investigation of nonstationary processes in heat and mass transfer). Kiyev, Izd-vo Naukova dumka, 1971, 266p.

Posledniye teoreticheskiye i eksperimental'nyye issledovaniya po stroitel'noy teplofizike. (Recent theoretical and experimental investigations in structural thermophysics. Collection of articles). Moskva, 1969, 133p.

Shevchenko, Yu. N. Termoplastichnost' pri peremennykh nagruzheniyakh. (Thermoplasticity under variable loads). Kiyev, Izd-vo Naukova dumka, 1970, 287p.

Shidlovskiy, A. A. Thermal protection of the MR-12 meteorological research rocket nose section. IN: Trudy. Institut eksperimental'noy meteorologii, no. 16, 1970, 100-103.

Skripov, V. P. Metastabil'naya zhidkost'. (Metastable liquid). Moskva, Izd-vo Nauka, 1972, 312p.

Smirnov, V. S., A. K. Grigor'yev, and V. P. Pakudin. Analysis of plastic deformation of metals using thermodynamic irreversible processes method. IN: Trudy LPI, no. 322, 1971, 17-25.

Sosnin, O. V., and N. G. Torshenov. Creep and failure of type OT-4 titanium alloy in the 400 to 500°C temperature interval. Problemy prochnosti, no. 7, 1972, 55-59.

Tarnovskiy, I. Ya., et al. Soprotivleniye deformatsii i plastichnost' stali pri vysokikh temperaturakh. (High temperature deformation resistance and plastic properties of steel). Tbilisi, Izd-vo Sabchota Sakartvelo, 1970, 222p.

Teplofizika. (Thermal physics. Collection of articles). Moskva, 1969, 129p.

Teplofizicheskiye kharakteristiki veshchestv. (Thermophysical properties of materials. Collection of articles). Moskva, Izd-vo Standartov, 1968, 215p.

Teplofizicheskiye svoystva tverdykh veshchestv. (Thermophysical properties of solids. Conference papers. Third All-Union Conference on High Temperature Properties of Materials, Baku, 1968). Moskva, Izd-vo Nauka, 1971, 183p.

Teplovyye naprzheniya v elementakh konstruktsiy. (Thermal stress of structural elements. Conference papers, Kiyev, 1971). Kiyev, Izd-vo Naukova dumka, 1971, 226p.

Vasil'yev, L. L., and S. A. Tanayeva. Teplofizicheskiye svoystva poristykh materialov. (Thermophysical properties of porous materials). Minsk, Izd-vo Nauka i tekhnika, 1971, 266p.

Vereshchagin, L. F., Ya. B. Gurevich, V. N. Dmitriyev, Yu. S. Konyayev, and Ye. V. Polyakov. High temperature gas extrusion of metals. FiKhOM, no. 4, 1972, 85-91.

Vertogradskiy, V. A. High temperature electrical resistivity of Mo-W alloys. IAN Met, no. 4, 1972, 220-222.

Vil'k, Yu. N., S. S. Ordan'yan, and A. I. Avgustinik. Feasibility of preparing isothermic sections of a Zr-W-C system at 2200 and 2600°C. NM, no. 7, 1972, 1245-1248.

Vol'kenshteyn, V. S. Skorostnoy metod opredeleniya teplofizicheskikh kharakteristik materialov. (Rapid method for determining thermophysical properties of materials). Leningrad, Izd-vo Energiya, 1971, 145p.

Yevtushok, T. M., and G. L. Zhunkovskiy. Anti-carbonization of molybdenum and tungsten. FiKhOM, no. 4, 1972, 108-112.

iv. Miscellaneous Strength of Materials

Afanas'yev, I. I. Anisotropy of piezo-optic and elasto-optic properties of cubic crystals. IN: Sbornik. Monokristally i tekhnika. Khar'kov, no. 5, 1971, 48-61. (RZhF, 6/72, no. 6Yel095)

Andreyev, V. G., and P. I. Ulyakov. Finite duration volumetric thermal shock in a transparent plate. I-FZh, v. 23, no. 1, 1972, 158-159.

Antipov, Ye. A., and N. S. Mozharovskiy. Deformation and failure of heat-resistant materials under thermal fatigue and creep as a function of the temperature and boundary conditions variation cycle. Problemy prochnosti, no. 8, 1972, 13-18.

Artsishevskiy, M. A., A. I. Zusman, R. Ya. Kemers, Ya. P. Selisskiy, and U. A. Ulmanis. Neutron irradiation effect on magnetic properties of molybdenum Permalloy. IN: Sbornik trudov TsNII chernoy metallurgii, no. 78, 1971, 33-39. (RZhF, 6/72, no. 6Yel599)

Atroshenko, A. P., K. N. Bogoyavlenskiy, P. F. Filippov, and V. G. Khoroshaylov. Feasibility of enhancing mechanical properties of titanium alloy parts using a thermomechanical hardening method. IN: Trudy LPI, no. 322, 1971, 138-143.

Babalov, A. F. Promyshlennaya teplozashchita v metallurgii. (Industrial thermal protection in metallurgy). Moskva, Izd-vo Metallurgii, 1971, 359p.

Baron, V. V. Temperature effect on mechanical properties of metal compounds. IN: Sbornik. Fiziko-khimiya redkikh metallov. Moskva, Izd-vo Nauka, 1972, 51-55. (RZhF, 6/72, no. 6Ye645)

Belyankin, F. P., V. F. Yatsenko, and G. G. Margolin. Prochnost' i deformativnost' steloplastikov pri dvukhosnom szhatii. (Strength and deformation properties of glass plastics under biaxial compression). Kiyev, Izd-vo Naukova dumka, 1971, 155p.

Berezhnoy, A. A. Electro-optic effect in ferroelectric crystals with diffuse phase transition. FTT, no. 7, 1972, 2035-2040.

Berg, O. Ya., Ye. N. Shcherbakov, and G. N. Pisanko. Vysokoprochnyy beton. (High strength concrete). Moskva, Izd-vo Stroyizdat, 1971, 208p.

Bergman, Ye. D., et al. Termicheskoye razrusheniye gornykh porod plazmoburami. (Use of plasma drills for the thermal destruction of rocks). Novosibirsk, Izd-vo Nauka, 1971, 127p.

Berukshtis, G. K., and G. B. Klark. Korrozionnaya ustoychivost' metallov i metallicheskikh pokrytiy v atmosfernykh usloviyakh. (Atmospheric corrosion resistance of metals and metal coatings). Moskv, Izd-vo Nauka, 1971, 159p.

Beskorovaynyy, N. M., Yu. S. Belomyttsev, M. D. Abramovich, et al. Konstruktsionnyye materialy yadernykh reaktorov. Ch. 1. Yadernyye i teplofizicheskiye svoystva osnovy korrozii i zharoprochnosti. (Nuclear reactor construction materials. Part 1. Nuclear and thermophysical properties, and fundamentals of corrosion and heat resistance). Moskva, Izd-vo Atomizdat, 1972, 239p.

Brun, M. Ya., V. G. Kudryashov, and L. A. Bykova. Structure effect on brittle fracture potential of type VT9 titanium alloy. FiKhOM, no. 4, 1972, 74-79.

Burov, I. V., and L. N. Litvak. Physico-chemical investigation of thermal emission properties of metals and alloys. IN: Sbornik. Fiziko-khimiya redkikh metallov. Moskva, Izd-vo Nauka, 1972, 106-117. (RZhF, 6/72, 6Zh462)

Dashevskiy, Ye. M. Discrete elements numerical solution of a two-dimensional problem in linear fracture mechanics. IN: Trudy TsNII stroitel'nykh konstruktsiy, no. 20, 1971, 77-86. (RZhMekh, 8/72, no. 8V435)

Degtyarev, V. P. Destruction deformation criteria under simple and complex loads. Problemy prochnosti, no. 7, 1972, 22-25.

Deribas, A. A. Fizika uprochneniya i svarki vzryvom. (Physics of metal hardening and explosive welding). Novosibirsk, Izd-vo Nauka, 1972, 188p.

Dulov, A. A., and A. A. Slinkin. Organicheskiye poluprovodniki. Polimery s sopryazhennymi svyazyami. (Organic semiconductors. Conjugate link polymers). Moskva, Izd-vo Nauka, 1970, 126p.

Dzugutov, M. Ya. Plasticheskaya deformatsiya vysokolegirovannykh staley i splavov. (Plastic deformation of high alloy steels and alloys). Moskva, Izd-vo Metallurgiya, 1971, 422p.

Fazovyye perekhody v segnetoelektrikakh. (Phase transitions in ferroelectrics. Collection of articles). Riga, Izd-vo Zinatne, 1971, 207p.

Fizika kondensirovannogo sostoyaniya. Elektronnyye svoystva metallov. (Physics of the condensed state. Electronic properties of metals). Trudy An UkrSSR Fiz-tekh. institut nizkikh temperatur. Khar'kov, no. 6, 1970, 119p.

Fizika kondensirovannogo sostoyaniya. Fizika magnitouporyadochennykh kristallov. (Physics of the condensed state. Physics of magnetically-ordered crystals). Trudy AN UkrSSR Fiz-tekh. institut nizkikh temperatur. Khar'kov, no. 7, 1970, 186p.

Fizika prochnosti i plastichnosti metallov i splavov. (Physics of the strength and plasticity of metals and alloys). Uchenyye zapiski Petrozavodskogo GU. Petrozavodsk, v. 16, no. 6, 1971, 259p.

Gorbachev, V. M., N. A. Uvarov, G. A. Gurov, and V. N. Kudrya. Pulsed irradiation reaction of coaxial cable with polyethylene filling. Atomnaya energiya, v. 32, no. 6, 1972, 576.

Goritskiy, V. M., V. S. Ivanova, L. G. Orlov, and V. R. Terent'yev. Differences between plastic deformation of surface and internal layers of polycrystalline iron under fatigue loading. DAN SSSR, v. 205, no. 4, 1972, 812-814.

Grebenik, V. M., R. P. Didyk, A. G. Teslenko, and V. K. Tsapko. Fatigue strength of metals under explosive strengthening. Problemy prochnosti, no. 8, 1972, 114-116.

Grinberg, B. G. Problemy prochnosti. (Problems of strength of metals). Moskva, Izd-vo Znaniye, 1971, 46p.

Grinberg, N. M., I. L. Ostapenko, and I. M. Lyubarskiy. Topography of fatigue failure of a two-phase titanium alloy. MiTOM, no. 8, 1972, 45-48.

Groshev, A. A., and V. B. Sergeyev. Liquid crystals in imaging devices. UFN, v. 107, no. 3, 1972, 503-505.

Gur'yev, A. V., and N. V. Shishkin. High temperature creep mechanism of microheterogeneous deformation in commercial iron. IAN Met, no. 4, 1972, 189-193.

Hruby, A., and J. Houserova. Glass-forming region in a Cd-Ge-As ternary system. Czechosl. J. Phys., B22, no. 1, 1972, 89-92. (RZhF, 6/72, no. 6Ye268)

Il'yasov, S. G., and V. V. Krasnikov. Radiative energy transfer in absorption and scattering materials from controlled irradiation under a limited flow angle. I-FZh, v. 23, no. 2, 1972, 267-277.

Isakhanov, G. V. Prochnost' nemetallicheskikh materialov pri neravnomernom nagreve. (Nonuniform heating strength of nonmetallic materials). Kiyev, Izd-vo Naukova dumka, 1971, 178p.

Issledovaniye protsessov plasticheskogo techeniya metallov. (Investigation of plastic flow processes in metals. Collection of articles). Moskva, Izd-vo Nauka, 1971, 144p.

Kard, P. G. Analiz i sintez mnogosloynykh interferentsionnykh plenok. (Analysis and synthesis of single layer interference films). Tallin, Izd-vo Valgus, 1971, 235p.

Karpenko, L. N. Conference on failure and strength criteria of structural materials and elements. Kiyev, 12-14 October 1971. (Review article). Problemy prochnosti, no. 7, 1972, 124-125.

Khzardzhyan, S. M. Fizika real'nykh kristallov. (Physics of natural crystals). Moskva, Izd-vo Znaniye, 1971, 48p.

Kishinevskiy, M. Kh., and A. A. Mosyak. Mass transfer in transverse flow around a circular cylinder. I-FZh, v. 23, no. 1, 1972, 156-157.

Kolyano, Yu. M., and V. I. Gromovyk. Nonstationary temperature distribution in an anisotropic plate with a specific heat flow on the edge. Minsk, 1972, 8p. (RZhMekh, 8/72, no. 8V38 DYeP)

Konopleva, R. F., V. L. Litvinov, and N. A. Ukhin. Osobennosti radiatsionnogo povrezhdeniya poluprovodnikov chastitsami vysokikh energii. (Characteristics of radiation damage to semiconductors by high energy particles). Moskva, Izd-vo Atomizdat, 1971, 76p.

Korotkikh, Yu. G., and A. I. Sadyrin. Thermal shock in elastoplastic shells. IN: Uchenyye zapiski Gor'kovskogo universiteta, no. 142, 1971, 51-58. (LZhS, 28/72, no. 92233)

Korshak, V. V., A. V. Vinogradov, V. V. Rode, G. M. Tseytlin, and Ziyad Tarik Al'-Khaydar. Thermal resistance of polybenzoxazoleimide. Vysokomolekulyarnyye soyedineniya, no. 7, 1972, 1528-1533.

Kovalenko, L. M., Ya. I. Lavrentovich, and A. M. Kabakchi. Effect of ionizing radiation on polystyrene and cellulose diacetate with dye additives. UKhZh, no. 7, 1972, 646-648.

Kozlova, N. L., V. I. Burkov, G. Z. Vinogradova, and S. A. Dembovs'kiy. Optical and magnetooptical properties of glassy arsenic chalcogenides. Visnyk Kyyivskoho universytetu. Ser. fiz., no. 12, 1971, 26-33. (RZhF, 6/72, no. 6Ye335)

Krivopal, B. A. Methods for investigating the strength and hardness of polymer coatings at various temperatures. IN: Trudy VNI tekhnologicheskogo instituta remonta i ekspluatatsii mashino-traktornogo parka, v. 28, 1971, 63-70. (LZhS, 31/72, no. 102885)

Krupin, A. V., and V. Ya. Solov'yev. Plasticheskaya deformatsiya tugoplavkikh metallov. (Plastic deformation of refractory metals). Moskva, Izd-vo Metallurgiya, 1971, 350p.

Kurilenko, A. I., and V. N. Kalinin. Strength of oriented polyethylene with grafted polyacrylonitrile. DAN BSSR, v. 16, no. 8, 1972, 715-718.

Kuz'min, R. N., S. V. Nikitina, A. N. Ovchinnikov, N. D. Tyuteva, and V. A. Golovnin. Investigation of ductile-brittle transition in carbon steels. MiTOM, no. 8, 1972, 38-44.

Lashkarev, G. V., L. A. Ivanchenko, and Yu. B. Paderno. Optical investigation of ytterbium monochalcogenides. PSS (b), v. 49, no. 1, 1972, K61-K65. (RZhF, 6/72, no. 6Ye1088)

Levin, A. A. Kvantovaya khimiya kovalentnykh kristallov. (Quantum chemistry of covalent crystals). Moskva, Izd-vo Znaniye, 1970, 63p.

Lipatov, Yu. S., and V. P. Privalko. Glass transition in filled polymer systems. Vysokomolekulyarnyye soyedineniya, no. 7, 1972, 1643-1648.

Lyakhovich, L. S., L. G. Voroshnin, E. D. Shcherbakov, and G. G. Panich. Silitsirovaniye metallov i splavov. (Siliconizing of metals and alloys). Minsk, Nauka i tekhnika, 1972, 279p.

Lysov, B. S., and A. N. Tumanov. Investigation of gas phase deposition of tantalum coatings. IVUZ Tsvetnaya metallurgiya, no. 3, 1972, 145-147.

Lyudskanov, V. G. Relationship of thermal depolarization to structural transitions in polymethylmethacrylate. IN: Nauchnyye trudy VPI-Plovdiv, v. 9, no. 3, 1971, 63-67. (RZhF, 6/72, no. 6Ye339)

Mel'nik, R. A. Strength and deformation of heavy high strength concrete under compression. IN: Sbornik. Stroitel'nyye konstruktsii, no. 20, 1972, 29-40. (RZhMekh, 8/72, no. 8V991)

Mel'nikov, N. P., O. N. Vinkler, and N. A. Makhutov. Conditions and causes of brittle fracture in structural steel constructions. IN: Sbornik. Materialy po metallicheskim konstruktsiyar Moskv, Izd-vo Stroyizdat, no. 16, 1972, 14-27. (RZhMekh, 8/72, no. 8V920)

Metallidy -- stroyeniye, svoystva, primeneniye. (Structure, properties, and applications of metallides. Collection of articles). Moskva, Izd-vo Nauka, 1971, 166p.

Osipenko, V. P., O. P. Stets'kiv, and P. V. Panasyuk. Thermal emf of alloys of an In-Zn system in the liquid state and on the crystal-melt boundary. Visnyk L'viv universytetu Ser. fiz, no. 6(14), 1971, 60-63, 110. (RZhF, 6/72, no. 6Ye161)

Pavlova, V. G., and A. A. Sinegub-Lavrenko. Effect of stabilizers on structural and mechanical properties of a polyethylene-hydrophobic filler system. Kolloidnyy zhurnal, no. 4, 1972, 565-568.

Pikus, I. F., and V. D. Kononenko. Investigation of thermophysical characteristics of a monolayer capacitor dielectric. I-FZh, v. 23, no. 2, 1972, 278-283.

Postnikov, V. S., A. T. Kosilov, V. B. Shepilov, and A. M. Belikov. Effect of scale factor and temperature on plastic deformation of copper whiskers. FiKhOM, no. 4, 1972, 80-84.

Primeneniye zonal'nykh metodov rascheta luchistogo teploobmena. (Application of zonal methods in calculation of radiative heat transfer. Collection of articles). Trudy Krasnodarskiy PI. Krasnodar, no. 24, 1970, 281p.

Prochnost' i deformatsii konstruktsii. Obzornaya informatsiya. (Strength and deformation of structures. Survey data. Collection of articles). Moskva, Izd-vo NII nauchnoy i tekhnicheskoy informatsii, 1970, 98p.

Prokhorenko, V. Ya., and B. M. Gapchin. Relationship of thermal effects to structure and thermoelectrical coefficients. Visnyk L'vivs'koho universytetu. Ser. fiz., no. 6(14), 1971, 63-70, 110. (RZhF, 6/72, no. 6Yel56)

Pustovalov, V. V. Metody izucheniya plastichnosti i prochnosti tverdykh tel pri nizkikh temperaturakh. (Methods of studying plasticity and strength of solids at low temperatures). Kiyev, Izd-vo Naukova dumka, 1971, 95p.

Rafalovich, I. M., and I. A. Denisova. Opredeleniye teplofizicheskikh svoystv metallurgicheskikh materialov. (Determining thermophysical properties of metallurgical materials. Second edition, revised and expanded). Moskva, Izd-vo Metallurgiya, 1971, 160p.

Rakhmanov, V. A., and Yu. Ye. Tyablikov. Effect of dynamic interaction conditions on development of concrete mechanical properties. IN: Sbornik. Stroitel'nyye konstruktsii, no. 20, 1972, 3-11. (RZhMekh, 8/72, no. 8V999)

Revyako, M. M., and V. Ya. Poluyanovich. Plasticizing of filled polyethylene. DAN BSSR, v. 16, no. 8, 1972, 726-728.

Romaniv, O. N., and I. S. Sorokivskiy. Physical fatigue limit of hardened steels. Problemy prochnosti, no. 8, 1972, 50-53.

Roytburd, A. L. Current status of theory of martensite transitions. IN: Sbornik. Nesovershenstva kristallicheskogo stroyeniya i martensitnykh prevrashcheniya. Moskva, Izd-vo Nauka, 1972, 7-33. (RZhF, 6/72, no. 6Ye467)

Rubtsov, A. N. Gidrirovaniye titanovykh materialov. (Hydrogenation of titanium materials). Kiyev, Naukova dumka, 1971, 127p.

Samoylovich, S. S., and B. I. Yelayvas. Investigation of kinetics of creep mechanics and long term strength of metals under varying stress states. IN: Uchenyye zapiski Gor'kovskogo universiteta, no. 149, 1972, 32-37. (RZhMekh, 8/72, no. 8V966)

Sazhin, B. I., A. M. Lobanov, M. P. Eydel'nant, et al. Elektricheskiye svoystva polimerov. (Electrical properties of polymers). Leningrad, Izd-vo Khimiya, 1970, 376p.

Sedokov, L. M., V. S. Golovenko, E. M. Mikhaylovskiy, and K. K. Pakhotin. Investigation of strength of structural materials under varying relationships of principal stress. Problemy prochnosti, no. 7, 1972, 26-32.

Shur, D. M. Statistical criterion of materials strength and plasticity in a complex stress state. Problemy prochnosti, no. 7, 1972, 15-21.

Shvets, T. M., S. A. Mikhalyuk, Z. M. Mel'nichenko, and V. V. Myalkovskiy. X-ray analysis of Fe-Co-Ni alloy metallo-polymers. UKhZh, no. 7, 1972, 723-724.

Skatynskiy, V. I., and V. A. Kritov. Characteristics of deformation of a dense silicate concrete under a multidimensional cyclic stress load. IN: Sbornik. Stroitel'nyye konstruktsii, no. 20, 1972, 24-29. (RZhMekh, 8/72, no. 8V1004)

Skripachev, V. V. Optimum surface temperature distribution on a flat plate. IN: Sbornik. Bionika, no. 6, 1972, 24-27. (RZhMekh, 8/72, no. 8B831)

Smirnov, V. M., A. T. Perevyazko, and V. L. Fedorov. Effect of chemical composition on heat resistance of type Kh25N16G7AR steel. MiTOM, no. 8, 1972, 74-75.

Spetsial'nyye stali i splavy. (Special steels and alloys. Collection of articles). Moskva, Izd-vo Metallurgiya, 1970, 246p.

Stams, N. Research on photothermoelasticity. Wiss. Z. Hochsch. Verkehrsw. Dresden, v. 18, no. 3, 1971, 529-532. (RZhF, 6/72, no. 6D1022)

Stepanov, V. A., and V. V. Shpeyzman. Characteristics of a metal failure process in a complex stress state. Problemy prochnosti, no. 7, 1972, 38-44.

Teplofizicheskiye svoystva veshchestv i materialov. (Thermophysical properties of substances and materials. Collection of articles). Moskva, Izd-vo Standartov, no. 5, 1972, 179p. (KL, 28/72, no. 23622)

Teplofizika i teplotekhnika v metallurgii. (Thermophysics and heat engineering in metallurgy. Collection of articles). Sbornik nauchnykh trudov VNIIMG. Sverdlovsk, no. 19, 1969, 314p.

Teplo- i massoperenos. (Heat and mass transfer. Conference papers). Minsk, v. 9, part 1, 1972, 428p. (KL, 28/72, no. 23755)

Troshchenko, V. T. Ustalost' i neuprugost' metallov. (Fatigue and inelasticity of metals). Kiyev, Izd-vo Naukova dumka, 1971, 268p.

Tulyakov, G. A., and V. A. Metel'kov. Investigation of thermal fatigue of type Kh18N10T steel in a complex stress state. Problemy prochnosti, no. 7, 1972, 33-37.

Terekhova, V. F. Polymorphism of metals. IN: Sbornik. Fiziko-khimiya redkikh metallov. Moskva, Izd-vo Nauka, 1972, 41-51. (RZhF, 6/72, no. 6Ye464)

Troitskiy, O. A. Effect of pulsed current on brittle fracture of zinc. MiTOM, no. 8, 1972, 53-56.

Tumanov, A. T., and K. I. Portnoy. New materials in modern technology. DAN SSSR, v. 205, no. 2, 1972, 336-338.

Ustalost' metallov i splavov. (Fatigue of metals and alloys. Conference papers). Moskva, Izd-vo Nauka, 1971, 122p.

Valiyev, K. A., Yu. V. Kopayev, V. G. Mokerov, and A. V. Rakov. Optical and electro-optical properties of vanadium dioxides. IN: Sbornik. VII Ural'skaya konferentsiya po spektroskopii. Sverdlovsk, no. 3, 1971, 147-149. (RZhF, 6/72, no. 6Ye471)

Vasil'yev, G. Ya., I. I. Zalyubovskiy, Ye. I. Raykhel's, and M. I. Rudenko. Kinetics of light restoration of optical properties of single crystals subjected to gamma irradiation. IN: Sbornik. Monokristally i tekhnika. Khar'kov, no. 5, 1971, 78-82. (RZhF, 6/72, no. 6Ye1257)

Vasil'yev, G. Ya., I. I. Zalyubovskiy, and M. I. Rudenko. Kinetics of infrared annealing of radiation defects in irradiated materials. IN: Sbornik. Monokristally i tekhnika. Khar'kov, no. 5, 1971, 83-88. (RZhF, 6/72, no. 6Ye1258)

Velikanov, A. V. Investigation of properties of high strength alloyed steels. IN: Trudy VNII zheleznodorozhnogo transporta, no. 434, 1971, 169-175. (LZhS, 27/72, no. 88673)

Verner, V. D., V. N. Kiseleva, Yu. V. Piguzov, I. Ya. Rzhevskaya, V. I. Shulepov, and S. I. Yudkovskiy. Role of atmospheric impurities in brittle fracture of polycrystalline molybdenum at room temperature. FMM, no.6, 1972, 1320-1322.

Vilenskiy, V. D., V. M. Paskonov, and V. I. Taratorin. Radiative-convective heat transfer in hot air flow around a flat plate. IN: Sbornik. Teplo- i massoperenos, ch. 3. Minsk, v. 1, 1972, 270-277. (RZhMekh, 8/72, no. 8B833)

Vinogradov, Ye. L., M. A. Martynov, N. A. Sibiryakova, and I. V. Kurbatova. Homogeneity of polyethylene and rubber mixtures. Vysokomolekul'yarnyye soyedineniye, no. 7, 1972, 1652-1655.

Vliyaniye defektov reshetki na svoystva kristallov. (Effect of crystal defects on crystal properties. Collection of articles). Frunze, Izd-vo Ilim, 1971, 70p.

Voleynik, V. V. Vysokotemperaturnaya elektrokhimiya i fizicheskaya khimiya vanadiya. (High temperature electrochemistry and physical chemistry of vanadium). Alma-Ata, Izd-vo Nauka, 1971, 162p.

Vorob'yev, V. A., and R. A. Andrianov. Polimernyye teploizolyatsionnyye materialy. (Polymer thermal insulation materials). Moskva, Izd-vo Stroyizdat, 1972, 320p.

Voronin, V. I., and A. Ye. Blazhkov. Thermal boundary layer on a nonisothermal plate. IVUZ Avia, no. 1, 1972, 119-123. (RZhMekh, 8/72, no. 8B777)

Voronov, N. M., R. M. Sofronova, and Ye. A. Voytekhova. Vysokotemperaturnaya khimiya okislov urana i ikh soyedineniy. (High temperature chemistry of uranium oxides and compounds). Moskva, Izd-vo Atomizdat, 1971, 359p.

Yashin, A. V. Strength and deformation of concrete under varying load rates. IN: Sbornik. Vozdeystviye staticheskikh, dinamicheskikh i mnogokratno povtoryayushchikhsya nagruzok na beton i elementy zhelezobetonnykh konstruktsiy. Moskva, Izd-vo Stroyizdat, 1972, 23-39. (RZhMekh, 8/72, no. 8V998)

Zashchitnyye pokrytiya na metallakh. (Protective coatings for metals. Collection of articles). Kiyev, Izd-vo Naukova dumka, no. 4, 1971, 320p.

Zavoychinskiy, B. I. Analysis of static and fatigue strength of metal structures. IN: Sbornik. Materialy po metallicheskim konstruktsiyam. Moskva, Izd-vo Stroyizdat, no. 16, 1972, 58-66. (RZhMekh, 8/72, no. 8V949)

Zhulenev, I. N. Thermophysical properties investigation of material deformation. IN: Trudy Tsentral'nogo NI i proyetkno-eksperimental'nogo instituta organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stvu, no. 1, 1970, 31-35. (LZhS, 29/72, no. 95459)

Zlochevskiy, A. B., I. V. Navrotskiy, Yu. S. Tomenko, and S. M. Florya. Effect of stress state on cold brittleness of steel under varying specimen thicknesses. FiKhOM, no. 4, 1972, 67-73.

Zuykova, N. A., and L. I. Sergeyenko. Vliyaniye redkozemel'nykh metallov na mekhanicheskiye svoystva staley i splavov. Annotirovannaya bibliograficheskaya ukazatel' otechestvennoy i inostrannoy literatury. (Effect of rare earth metals on mechanical properties of steels and alloys. Annotated bibliographic index of Soviet and foreign literature. No. 2, 1965-1969). Moskva, 1970, 36p.

V. Superconductivity

Baron, V. V. Niobium and vanadium superconducting alloys. IN: Sbornik. Fiziko-khimiya redkikh metallov. Moskva, Izd-vo Nauka, 1972, 85-93. (RZhF, 6/72, no. 6Ye1391)

Bar'yakhtar, V. G., Ye. I. Druinskiy, and I. I. Fal'ko. Frank-Read source performance in a superconductor. FTT, no. 7, 1972, 1972-1976.

Belevtsev, B. I., Yu. F. Komnik, and L. A. Yatsuk. Amorphous phase-crystal transition in small thickness bismuth films. FTT, no. 7, 1972, 2177-2179.

Druinskiy, Ye. I., and I. I. Fal'ko. Dual-zone character of longitudinal ultrasound attenuation in superconducting niobium. UFZh, no. 7, 1972, 1216-1218.

Geylikman, B. T., and V. Z. Kresin. Kineticheskiye i nestatsionarnyye yavleniya v sverkhprovodnikakh. (Kinetic and nonstationary phenomena in superconductors). Izd-vo Nauka, for publication in 1973. (NK, 26/72, no. 32)

Gindin, I. A., V. P. Lebedev, and Ya. D. Starodubov. Creep effect on electrical resistivity of lead in normal and superconducting states. FTT, no. 7, 1972, 2025-2029.

Golovashkin, A. I., I. S. Levchenko, and G. P. Motulevich. Characteristics of niobium-tin superconducting alloys prepared by vacuum vaporization. FMM, no. 6, 1972, 1213-1221.

Golub, A. A., and M. K. Kolpazhiu. Effect of renormalized plasma spectrum on superconductivity in semiconductors. FTT, no. 7, 1972, 1958-1962.

Ivanov, O. S., I. I. Rayevskiy, and N. V. Stepanov. Sverkhprovodyashchiye splavy sistemy niobiy-titan-tsirkoniy-gafniy. (Superconducting alloys of a Ni-Ti-Zr-Hf system). Moskva, Izd-vo Nauka, 1971, 166p.

Kopayev, Yu. V., and R. Kh. Timerov. Effect of metal-dielectric phase transition on superconducting transition temperature. ZhETF, v. 63, no. 1, 1972, 290-307.

Migunov, L. V. Parameters of superconducting strip transmission lines. IN: Trudy Gor'kovskogo PI, v. 27, no. 15, 1971, 54-56. (RZhRadiot, 7/72, no. 7D448)

Pan, V. M., V. I. Latysheva, and A. I. Sudovtsov. Superconductivity of Ni-Al-Si alloys. FMM, no. 6, 1972, 1311-1313.

Slivnjak, B. Type I and II superconductors. Obz. mat in fiz, v. 19, no. 1, 1972, 11-15. (RZhF, 6/72, no. 6Ye1375)

Slusarev, V. A., and I. A. Burakhovich. Interaction between charges and librational excitations in solid metal-ammonia solutions. PSS (a), no. 12, 1972, K27-K29.

Surikov, V. I., V. I. Pryadein, A. K. Shtol'ts, A. P. Stepanov, P. V. Gel'd, A. F. Prekul, and V. L. Zagryazhskiy. Physical properties and electronic structure of ternary $(V_{1-x}Cr_x)_3Si$ alloys. FMM, no. 6, 1972, 1222-1227.

Tret'yakov, B. N., and V. B. Kuritsin. Investigation of superconducting properties and nmr parameters of V-Ga system alloys. IN: Sbornik trudov TsNII chernoy metallurgii, no. 78, 1971, 128-133. (RZhF, 6/72, no. 6Ye1394)

Vassilev, P. G. Dependence of critical supercurrent on normal layer thickness in S-N-S structures. DBAN, v. 25, no. 4, 1972, 459-462.

Venikov, V. A. Sverkhprovodyashchiye linii elektroperedachi. (Superconducting transmission lines). Itogi nauki i tekhniki. Elektricheskiye stantsii, seti i sistemy, 1969. Moskva, 1971, 160p.

Zenkevich, V. B., and V. V. Sychev. Magnitnyye sistemy na sverkhprovodnikakh. (Superconducting magnetic systems). Moskva, Izd-vo Nauka, 1972, 260p.

vi. Epitaxial Films

Andrelowicz, M., M. Rdzanek, and J. Zmija. Method of expitaxial synthesis of gallium arsenide from chemical transport reaction in the vapor phase. Biul. WAT J. Dabrowskiego, v. 21, no. 3, 1972, 97-105. (RZhKh 19ABV, 15/72, no. 15B557)

Atakova, M. M., O. M. Ivleva, and P. Ye. Ramazanov. Structure of ZnS epitaxy on GaAs. IVUZ Fiz, no. 7, 1972, 134-135.

Bochkareva, L. V., I. A. D'yakon, and A. V. Simashkevich. Effect of ZnSe-ZnTe heterojunction preparation conditions on structure and volt-ampere characteristics. IN: Trudy po fizike poluprovodnikov. Kishinevskiy universitet, no. 3, 1971, 124-131. (RZhF, 6/72, no. 6Ye968)

Ibayev, G. I., M. A. Talibi, and M. Ya. Bakirov. Se-CdSe p-n heterojunction from single crystal selenium film. FTP, no. 7, 1972, 1405 (DYeP)

Kas'yan, V. A., A. I. Kozlov, and Yu. A. Nikol'skiy. Strain sensitivity in p- and n-type GaSb films. IN: Trudy po fizike poluprovodnikov. Kishinevskiy universitet, no. 3, 1971, 88-94. (RZhF, 6/72, no. 6Ye912)

Kas'yan, V. A., and Yu. A. Nikol'skiy. Electrical properties of single crystal films from $In_xGa_{1-x}Sb$ alloys. IN: Trudy po fizike poluprovodnikov. Kishinevskiy universitet, no. 3, 1971, 78-82. (RZhF, 6/72, no. 6Ye996)

Palatnik, L. S., and I. I. Papirov. Epitaksial'nyye plenki. (Epitaxial films). Moskva, Izd-vo Nauka, 1971, 480p.

Sidorov, Yu. G., S. A. Dvoretskiy, L. N. Aleksandrov, A. F. Kravchenko, L. N. Ryndina, and A. P. Leutina. Effect of vapor phase composition on electrical properties of GaAs epitaxial layers. NM, no. 8, 1972, 1373-1378.

Tagiyev, B., M. Bakirov, and G. Ibayev. Effect of a strong electric field in selenium single crystal epitaxial films. DAN AzSSR, v. 28, no. 2, 1972, 22-26.

Uskov, V. A., and S. P. Svetlov. Diffusion of antimony in vacuum sublimated epitaxial silicon. IVUZ Fiz, no. 7, 1972, 145-147.

Zavalin, I. V., I. V. Potykevich, V. P. Klochkov, V. S. Kashtan, and A. I. Filippova. Phase composition and structural defects of CdTe epitaxial films. UKhZh, no. 7, 1972, 725-727.

vii. Magnetic Bubble Materials

Ageyev, A. N., B. M. Lebed', V. I. Mosel', T. A. Fomina, and L. M. Emiryan. Ferromagnetic resonance in gadolinium-iron garnet with a terbium impurity. IAN Fiz, no. 7, 1972, 1562-1563.

Antonov, A. V., A. M. Balbashov, V. A. Baltinskiy, and A. Ya. Chervonenkis. Observation and properties of ring domains in rare earth orthoferrites. FTT, no. 7, 1972, 1901-1904.

Lyubutin, I. S., and Yu. S. Vishnyakov. Moessbauer study of substituted rare-earth orthoferrites. PSS (a), no. 12, 1972, 47-52.

Moskvin, A. S. Angular dependence of superexchange interactions in yttrium and orthoferrite and orthochromite rare earths. IAN Fiz, no. 7, 1972, 1395-1397.

viii. Surface Waves

Aliyev, Yu. M., O. M. Gradov, and A. Yu. Kiriy. Kinetic theory of surface wave parametric excitation in a semibounded plasma. ZhETF, v. 63, no. 1, 1972, 112-120.

Bogdanov, S. V., A. V. Kovalev, and I. B. Yakovkin. Unidirectional converter of ultrasonic surface waves. Otkr izobr, no. 19, 1972, no. 342309.

Kaliski, S. Surface waveguide effect in a wave equation. Bull. Acad. pol. sci., Ser. sci. techn., v. 20, no. 2, 1972, 85-90. (RZhMekh, 8/72, no. 8V54)

Kaliski, S., and L. Solarz. Surface waveguide in a wave medium. Biul. WAT J. Dabrowskiego, v. 20, no. 12, 1971, 11-24. (RZhF, 6/72, no. 6Zh542)

Lyubimov, V. N. Surface electrostatic and electromagnetic waves in uniaxial crystal sections. Kristall, no. 4, 1972, 816-822.

Vashkovskiy, A. V., V. I. Zubkov, V. N. Kil'dishev, and B. A. Murmuzhev. Interaction of surface magnetostatic waves with charge carriers at a ferrite-semiconductor boundary. ZhETF P, v. 16, no. 1, 1972, 4-7.

6. Miscellaneous Interest

A. Recent Selections

Aleshin, S. M., B. A. Minayev, and G. I. Ushakov. Finansirovaniye nauchno-issledovatel'skikh uchrezhdeniy. (Financing of scientific research institutions). Finansy. (For publication in second quarter of 1973). (NK, 26/72, no. 105)

Alibegova, Zh. D., and G. G. Shchukin. Satellite detection of precipitation zones using microwave radiation. IN: Trudy. Glavnaya geofizicheskaya observatoriya, no. 291, 1972, 72-79. (RZhF, 6/72, 6Zh203)

Aref'yev, K. M., and I. I. Paleyev. Osnovy termoelektronnogo i magnitogidrodinamicheskogo preobrazovaniya energii. (Fundamentals of thermoelectronic and magnetohydrodynamic energy conversion). Moskva, Izd-vo Atomizdat, 1970, 215p.

Artsimovich, L. A. Soviet research on controlled thermonuclear synthesis. VAN, no. 1, 1972, 10-18. (RZhF, 6/72, no. 6G272)

Bazhinov, A. G. Biologicheskoye oruzhiye i zashchita ot nego. (Biological weaponry and defenses. Second edition, revised and expanded). Moskva, 1971, 52p.

Buzaneva, Ye. V., B. I. Strikha, V. I. Panichevskaya, and A. G. Kononenko. Technique for preparing silicon dielectric films. Otkr. izobr., no. 18, 1972, no. 341116.

Cherkasov, I. I., and V. V. Shvarev. Nachala gruntovedeniya Luny. Fiz-mekh. svoystva lunnykh gruntov. (Beginnings of lunar soil science. Physico-mechanical properties of lunar soils). Moskva, Izd-vo Nauka, 1971, 199p.

Chistyakov, I. G. Structure of liquid crystals. VAN, no. 7, 1972, 28-32.

Chvertkin, Ye. I. Hydrological buoy with a hydroacoustic transmission channel. Okeanologiya, v. 12, no. 1, 1972, 155-157. (RZhF, 6/72, no. 6Zh599)

Derpgol'ts, V. F. Voda vo Vselennoy. V kosmose, na malykh telakh Solnechnoy sistemy, v atmosferakh, na poverkhnosti i v nedrakh planet. (Water in the universe: in space, in small bodies of the solar system, and in planetary atmospheres, surfaces and subsurfaces). Leningrad. Izd-vo Nedra, 1971, 223p.

Deryagin, B. V., and N. V. Churayev. Novyye svoystva zhidkostey. Sverkhplotnaya voda: voda II. (New properties of liquids. Superdense water: type II water). Moskva, Izd-vo Nauka, 1971, 176p.

Dmitriyeva, L. I., G. G. Pertsovskaya, L. V. Pryanishnikova, and N. I. Subach. Novyye istochniki energii. Bibliographicheskiy ukazatel'. (New energy sources. Bibliographical index). Moskva, 1970, 152p.

Dymshits, B. M., and Ya. P. Koretskiy. Temperature of a free plasma column in a high frequency field at high pressures. OiS, v. 33, no. 1, 1972, 32-35.

Flerov, G. N., and V. I. Kuznetov. Sintez i poisk transuranovykh elementov. (Synthesis and detection of transuranium elements). Moskva, Izd-vo Znaniye, 1972, 47p.

Galyayev, N. A., N. I. Golovnya, M. I. Grachev, et al. Elastic scattering beam of a proton internal target with pulses to 70 Gev/s. ZhTF, no. 7, 1972, 1437-1445.

Gavrilov, V. P., and A. A. Kolomenskiy. Feasibility of multilevel acceleration and multipole moment systems moving in an inverted medium. ZhETF P, v. 16, no. 1, 1972, 29-32.

Gizhinskiy, A. R. Investigation of a Na_2WO_4--$Y_2(WO_4)_3$ system and growth of $NaY(WO_4)_2$ single crystals. NM, no. 7, 1972, 1326-1327.

Ivanov, N. M., and A. I. Martynov. Problema spuska kosmicheskikh apparatov v atmosferakh planet. (Launching space vehicles in planetary atmospheres). Moskva, Izd-vo Znaniye, 1972, 48p.

Kalashnikov, S. G., A. I. Morozov, and M. A. Zemlyanitsyn. Alternating acoustoelectric effect in a laminar piezoelectric-semiconductor structure. ZhETF P, v. 16, no. 3, 1972, 170-173.

Karaman, M. I., V. P. Mushinskiy, and L. I. Palaki. Reflection from Ga_2Se_3 crystal lattices. NM, no. 7, 1972, 1301-1302.

Kovalev, Ye. Ye, et al. Fizicheskiye i radiobiologicheskiye issledovaniya na iskusstvennykh sputnikakh Zemli. (K otsenke radiationnoy opasnosti kosmicheskikh poletov). (Physical and radiobiological research in artificial earth satellites. Estimate of radiation dangers of space flight). Moskva, Izd-vo Atomizdat, 1971, 200p.

Kramerov, A. Ya. Voprosy konstruirovaniya yadernykh reaktorov. (Problems in construction of atomic reactors). Moskva, Izd-vo Atomizdat, 1971, 327p.

Krasilnikov, V. A. Theory and measuring technology of nonlinear acoustics. IN: Proceedings 7th International Congress on Acoustics. Budapest, v. 1, 1971, 97-112. (RZhMekh, 8/72, no. 8B328)

Kudritskiy, Yu. K. Radioaktivnost' i zhizn'. (Radioactivity and life). Leningrad, 1971, 32p.

Kulikov, K. A., and V. B. Gurevich. Osnovy lunnoy astrometrii. (Fundamentals of lunar astrometry). Moskva, Izd-vo Nauka, 1972, 391p.

Kuznetsov, V. A., and A. N. Lobachev. Hydrothermal method of crystal growth. Kristall, no. 4, 1972, 878-904.

Libkind, L. D. Applying reference monochromatic emitters in plasma pyrometry. IT, no. 7, 1972, 92.

Martsinkevich, L. M., and V. V.Melent'yev. Centimeter-range radiation from a turbulent sea surface. IN: Trudy Glavnoy geofizicheskoy observatorii, no. 291, 1972, 24-33. (RZhF, 6/72, no. 6Zh199)

Mediko-biologicheskiye problemy kosmicheskikh poletov. Ukazatel' otechestvennoy i zarubezhnoy literatury. (Biomedical problems of space flight. Guide to Soviet and foreign literature). Moskva, Izd-vo Nauka, 1972, 303p.

Melent'yev, V. V., Yu. I. Rabinovich, and G. G. Shchukin. Airborne measurements of rf radiation from a turbulent sea surface. IN: Trudy Glavnoy geofizicheskoy observatorii, no. 291, 1972, 34-39. (RZhF, 6/72, no. 6Zh200)

Melent'yev, V. V., and Yu. I. Rabinovich. Results of laboratory measurements of radiation coefficients of natural surfaces. IN: Trudy Glavnoy geofizicheskoy observatorii, no. 291, 1972, 14-17. (RZhF, 6/72, no. 6Zh197)

Merzhiyevskiy, L. A. Modelling of meteor particle impact along a liquid-filled pipeline. IN: Sbornik. Dinamika sploshnoy sredy. Novosibirsk, no. 8, 1971, 169-176. (RZhMekh, 8/72, no. 8V910)

Metodika magnitnykh izmereniy i interpretatsii v geofizike. (Methods for geophysical magnetic measurements and interpretation. Collection of articles). Sverdlovsk, 1970. 78p.

Mikhaylovskiy, A. B. Teoriya plazmennykh neustoychivostey. T. 1. Neustoychivosti odnorodnoy plazmy. (Theory of plasma instability. Volume 1. Instability of uniform plasma). Moskva, Izd-vo Atomizdat, 1970, 294p.

Mishchenko, Yu. A. Zagorizontnaya radiolokatsiya. (Over-the-horizon radar). Moskva, Izd-vo Voyenizdat, 1972, 96p.

Morozov, K. V. Artilleriyskoye i raketnoye oruzhiye korabley. (Shipborne artillery and rocket weaponry). Moskva, Izd-vo DOSAAF, 1971, 175p.

Narayeva, M. K., I. A. Telegin, and T. L. Kulakova. Phototelevision image readout system for Mars-2 and Mars-3 automatic interplanetary stations. OMP, no. 7, 1972, 27-29.

Novikov, M. I. On the problem of trajectory tracking. IN: Trudy Moskovskogo energeticheskogo instituta, no. 108, 1972, 14-16. (RZhF, 6/72, no. 6Zh87)

Ocherki fiziki i khimii nizkotemperaturnoy plazmy. (Essays on the physics and chemistry of low temperature plasma). Moskva, Izd-vo Nauka, 1971, 434p.

Perlin, Ye. Yu. Induced antiresonance in crystals. FTT, no. 7, 1972, 2133-2134.

Ponomarev, B. K. Antiferro-ferromagnetic transition in a FeRh alloy in a pulsed magnetic field to 300 koe. ZhETF, v. 63, no. 1, 1972, 199-204.

Problemy kosmicheskoy biologii. T. 19. Problemy ustoychivosti biologicheskikh sistem. (Problems of space biology. Volume 19. Stability of biological systems. Collection of articles). Moskva, Izd-vo Nauka, 1972, 290p.

Ptashnyy, L. K. Anglo-russkiy slovar' po avtomatike, kibernetike i kontrol'no-izmeritel'nym priboram. Okolo 20,000 terminov. Izd. 2-ye pererab. i dop. (English-Russian automation, cybernetics and test instruments dictionary. Second edition, revised and expanded, 20,000 terms). Moskva, Izd-vo Sovetskaya entsiklopediya, 1971, 428p.

Primeneniye radioteplolokatsii v meteorologii. (Application of radio heat finding in meteorology. Collection of articles). Trudy Glavnoy geofizicheskoy observatorii, Leningrad. Izd-vo Gidrometeoizdat, no. 291, 1972, 84p. (RZhF, 6/72, no. 6Zh194 K)

Radiatsionnyye defekty i lyuminestsentsiya ionnykh kristallov. (Radiation defects and luminescence of ionic crystals. Collection of articles). Riga. Izd-vo Zinatne, 1970, 224p.

Radiolokatsiya segodnya i zavtra. Rek ukazatel' literatury v pomoshch' lektoru. (Radar present and future. Selective literature index for instructors). Moskva, Izd-vo Znaniye, 1970, 20p.

Raykher, Yu. L. Propagation of small perturbations in a nonconductive ferro-liquid. IN: Trudy NII matematiki Voronezhskogo instituta, no. 4, 1971, 149-152. (LZhS, 29/72, no. 94814)

Rukovodstvo po raschetu parametrov vetrovykh voln. (Guidebook for calculation of wind wave parameters). Leningrad. Izd-vo Gidrometeoizdat, 1969, 138p.

Sattarov, D. K., G. Ya. Konayeva, I. P. Gryaznova, and T. D. Kul'da. Light transmission of separate flux components emitted from a fiber-optics element. OiS, v. 33, no. 1, 1972, 159-164.

Segnetoelektriki i ferromagnetiki. (Ferroelectrics and ferromagnetics, Collection of articles). Kalinin, 1971, 189p.

Shchukin, G. G. Radio emission from natural land surfaces. IN: Trudy Glavnoy geofizicheskoy observatorii, no. 291, 1972, 18-23. (RZhF, 6/72, no. 6Zh198)

Shushpanov, P. I., N. N. Zakhavayeva, G. D. Mikhaylov, and A. I. Konovalov. Interaction of underwater ultrasonics in thin quartz capillaries. IN: Sbornik. Primeneniye ul'traakustiki k issledovaniy veshchestva. Moskva, no. 25, 1971, 335-339. (RZhF, 6/72, no. 6Ye96)

Smirnov, G. A., and V. I. Panov. Sovremennaya radiolokatsiya. (Modern radar). Moskva. Izd-vo Znaniye, no. 1, 1972, 64p.

Tarasenko, V. F., S. S. Ovchinnikov, S. S. Kalininchenko, I. I. Kurilko, O. M. Shvets, and V. T. Tolok. High frequency heating of a plasma during ion-ionic hybrid resonance. ZhETF P, v. 16, no. 3, 1972, 165-168.

Telesnin, R. V., A. G. Shishkov, E. N. Ilicheva, N. G. Kanavina, and N. A. Ekonomov. Diffraction of light in magnetic stripe-structure, PSS (a), v. 12, no. 303, 1972, 303-306.

Tishkin, P. A. Eksperimental'nyye metody yadernoy fiziki. Ch. 1. Detektory yadernykh izlucheniy. (Experimental methods in nuclear physics. Part 1. Nuclear radiation detectors). Leningrad. Izd-vo Leningradskogo universiteta, 1970, 232p.

Tolgskaya, M. S., and Z. V. Gordon. Morfofiziologicheskiye izmeneniya pri deystvii elektromagnitnykh voln radiochastot. (Eksperimental'nyye issledovaniya). (Morphophysiological effects of rf radiation. Experimental research). Moskva, Izd-vo Meditsina, 1971, 136p.

Tret'yakova, S. S., O. A. Tret'yakov, and V. P. Shestopalov. Wave beam diffraction in planar periodic structures. RiE, no. 7, 1972, 1366-1373.

Uspenskaya, G. V. Plazma i upravlyayemyye termoyadernyye reaktsii. Rek. obzor literatury. (Plasma and controlled thermonuclear reactions. Selective literature review). Moskva, Izd-vo Kniga, 1970, 16p.

Vinogradov, A. P. Preliminary data on lunar soils obtained by Luna-20. Priroda, no. 8, 1972, 2-10.

Vistin', L. K. Dielectric hysteresis in liquid single crystals. Kristall, no. 4, 1972, 842-845.

Volokhatyuk, V. A., V. M. Kochetkov, and R. R. Krasovskiy. Voprosy opticheskoy lokatsii. (Problems of optical radar). Moskva, Izd-vo Sovetskoye radio, 1971, 256p.

Voprosy tkanevoy radiochuvstvitel'nosti. T. 7. (Problems of tissue radiosensitivity. Collection of articles). Alma-Ata. Izd-vo Nauka, v. 7, 1970, 145p.

Yermolayev, E. A., Yu. L. Shelekhin, and M. P. Votinov. Interaction of ruby with ionizing radiation. IN: Trudy LPI, no. 325, 1971, 78-80.

Yeshchenko, S. D., and B. Sh. Lande. Radar imaging of sea surfaces. RiE, no. 8, 1972, 1590-1597.

Zarochentseva, R. K., and T. I. Kolpakova. Opasnost' elektromagnitnykh izlucheniy vysokikh i sverkhvysokikh chastot i mery zashchity. (Dangers of and protective measures against hf and shf radiation). Taganrog, 1969, 77p.

Zhilinskiy, A. P., I. F. Liventseva, and Yu. M. Safronov. SHF plasma heating and longitudinal electron thermal conductivity in a magnetic field. ZhTF, no. 7, 1972, 1404-1412.

SUBJECT: SCIENTIFIC DISCOVERY IN HYDROBIONICS

SOURCE: Presnyakov, A. Secrets of "living torpedoes." Sovetskaya Rossiya, 19 September 1972, p. 4, cols. 2-6.

On 18 September 1972, Soviet researchers S. V. Pershin, A. G. Tomilin, and A. S. Sokolov were awarded certificates by the Committee on Inventions and Discoveries of USSR Council of Ministers. According to press, these researchers have discovered the previously unknown ability of cetaceans to regulate the flexibility of their flippers. Visual and photographic observations under natural and artificial conditions, coupled with x-ray and microscopic examination of cetacean propulsion organs, revealed a complex mechanism for regulating flipper flexibility, based on a highly branched and specialized vascular network and tegumental (skin) tissues. It is stated that this discovery should have a significant impact on hydrobionics, specifically, the development of novel propulsion systems for vessels.

SUBJECT: SOVIETS STUDY SEA OF OKHOTSK AS TIDAL POWER SOURCE

SOURCE: Using the energy of the sea. Vechernyaya Moskva, 13 September 1972, p. 3, col. 10.

A group of specialists, including personnel from the Gidroproyekt Institute imeni S. Ya. Zhuk, is presently on Kamchatka studying the possible use of tides in the Sea of Okhotsk as a source of electric power. The Sea of Okhotsk has the largest tidal swing in the

USSR, with values of 12 meters at Penzhinskaya Guba in the north and 8 meters near the Shantarskiye Islands in the south. According to the preliminary estimates of the specialists, Penzhinskaya Guba alone is capable of generating about 20 million kilowatts.

SOURCE ABBREVIATIONS

AiT	-	Avtomatika i telemekhanika
APP	-	Acta physica polonica
DAN ArmSSR	-	Akademiya nauk Armyanskoy SSR. Doklady
DAN AzSSR	-	Akademiya nauk Azerbaydzhanskoy SSR. Doklady
DAN BSSR	-	Akademiya nauk Belorusskoy SSR. Doklady
DAN SSSR	-	Akademiya nauk SSSR. Doklady
DAN TadSSR	-	Akademiya nauk Tadzhikskoy SSR. Doklady
DAN UkrSSR	-	Akademiya nauk Ukrainskoy SSR. Dopovidi
DAN UzbSSR	-	Akademiya nauk Uzbekskoy SSR. Doklady
DBAN	-	Bulgarska akademiya na naukite. Doklady
EOM	-	Elektronnaya obrabotka materialov
FAiO	-	Akademiya nauk SSSR. Izvestiya. Fizika atmosfery i okeana
FGiV	-	Fizika goreniya i vzryva
FiKhOM	-	Fizika i khimiya obrabotka materialov
F-KhMM	-	Fiziko-khimicheskaya mekhanika materialov
FMiM	-	Fizika metallov i metallovedeniye
FTP	-	Fizika i tekhnika poluprovodnikov
FTT	-	Fizika tverdogo tela
FZh	-	Fiziologicheskiy zhurnal
GiA	-	Geomagnetizm i aeronomiya
GiK	-	Geodeziya i kartografiya
IAN Arm	-	Akademiya nauk Armyanskoy SSR. Izvestiya. Fizika
IAN Az	-	Akademiya nauk Azerbaydzhanskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk

IAN B	-	Akademiya nauk Belorusskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IAN Biol	-	Akademiya nauk SSSR. Izvestiya. Seriya biologicheskaya
IAN Energ	-	Akademiya nauk SSSR. Izvestiya. Energetika i transport
IAN Est	-	Akademiya nauk Estonskoy SSR. Izvestiya. Fizika matematika
IAN Fiz	-	Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya
IAN Fizika zemli	-	Akademiya nauk SSSR. Izvestiya. Fizika zemli
IAN Kh	-	Akademiya nauk SSSR. Izvestiya. Seriya khimicheskaya
IAN Lat	-	Akademiya nauk Latviyskoy SSR. Izvestiya
IAN Met	-	Akademiya nauk SSSR. Izvestiya. Metally
IAN Mold	-	Akademiya nauk Moldavskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk
IAN SO SSSR	-	Akademiya nauk SSSR. Sibirskoye otdeleniye. Izvestiya
IAN Tadzh	-	Akademiya nauk Tadzhiksoy SSR. Izvestiya. Otdeleniye fiziko-matematicheskikh i geologo-khimicheskikh nauk
IAN TK	-	Akademiya nauk SSSR. Izvestiya. Tekhnicheskaya kibernetika
IAN Turk	-	Akademiya nauk Turkmenskoy SSR. Izvestiya. Seriya fiziko-tekhnicheskikh, khimicheskikh, i geologicheskikh nauk
IAN Uzb	-	Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk
IBAN	-	Bulgarska akademiya na naukite. Fizicheski institut. Izvestiya na fizicheskaya institut s ANEB
I-FZh	-	Inzhenerno-fizicheskiy zhurnal

IiR	-	Izobretatel' i ratsionalizator
ILEI	-	Leningradskiy elektrotekhnicheskiy institut. Izvestiya
IT	-	Izmeritel'naya tekhnika
IVUZ Avia	-	Izvestiya vysshikh uchebnykh zavedeniy. Aviatsionnaya tekhnika
IVUZ Cher	-	Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya
IVUZ Energ	-	Izvestiya vysshikh uchebnykh zavedeniy. Energetika
IVUZ Fiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Fizika
IVUZ Geod	-	Izvestiya vysshikh uchebnykh zavedeniy. Geodeziya i aerofotos"yemka
IVUZ Geol	-	Izvestiya vysshikh uchebnykh zavedeniy. Geologiya i razvedka
IVUZ Gorn	-	Izvestiya vysshikh uchebnykh zavedeniy. Gornyy zhurnal
IVUZ Mash	-	Izvestiya vysshikh uchebnykh zavedeniy. Mashinostroyeniye
IVUZ Priboro	-	Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye
IVUZ Radioelektr	-	Izvestiya vysshikh uchebnykh zavedeniy. Radioelektronika
IVUZ Radiofiz	-	Izvestiya vysshikh uchebnykh zavedeniy. Radiofizika
IVUZ Stroi	-	Izvestiya vysshikh uchebnykh zavedeniy. Stroitel'stvo i arkhitektura
KhVE	-	Khimiya vysokikh energiy
KiK	-	Kinetika i kataliz
KL	-	Knizhnaya letopis'
Kristall	-	Kristallografiya
KSpF	-	Kratkiye soobshcheniya po fizike

LZhS	-	Letopis' zhurnal'nykh statey
MiTOM	-	Metallovedeniye i termicheskaya obrabotka materialov
MP	-	Mekhanika polimerov
MTT	-	Akademiya nauk SSSR. Izvestiya. Mekhanika tverdogo tela
MZhiG	-	Akademiya nauk SSSR. Izvestiya. Mekhanika zhidkosti i gaza
NK	-	Novyye knigi
NM	-	Akademiya nauk SSSR. Izvestiya. Neorganicheskiye materialy
NTO SSSR	-	Nauchno-tekhnicheskiye obshchestva SSSR
OiS	-	Optika i spektroskopiya
OMP	-	Optiko-mekhanicheskaya promyshlennost'
Otkr izobr	-	Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki
PF	-	Postepy fizyki
Phys abs	-	Physics abstracts
PM	-	Prikladnaya mekhanika
PMM	-	Prikladnaya matematika i mekhanika
PSS	-	Physica status solidi
PSU	-	Pribory i sistemy upravleniya
PTE	-	Pribory i tekhnika eksperimenta
Radiotekh	-	Radiotekhnika
RiE	-	Radiotekhnika i elektronika
RZhAvtom	-	Referativnyy zhurnal. Avtomatika, telemekhanika i vychislitel'naya tekhnika
RZhElektr	-	Referativnyy zhurnal. Elektronika i yeye primeneniye

RZhF	-	Referativnyy zhurnal. Fizika
RZhFoto	-	Referativnyy zhurnal. Fotokinotekhnika
RZhGeod	-	Referativnyy zhurnal. Geodeziya i aeros"-yemka
RZhGeofiz	-	Referativnyy zhurnal. Geofizika
RZhInf	-	Referativnyy zhurnal. Informatics
RZhKh	-	Referativnyy zhurnal. Khimiya
RZhMekh	-	Referativnyy zhurnal. Mekhanika
RZhMetrolog	-	Referativnyy zhurnal. Metrologiya i izmeritel'naya tekhnika
RZhRadiot	-	Referativnyy zhurnal. Radiotekhnika
SovSciRev	-	Soviet science review
TiEKh	-	Teoreticheskaya i eksperimental'naya khimiya
TKiT	-	Tekhnika kino i televideniya
TMF	-	Teoreticheskaya i matematicheskaya fizika
TVT	-	Teplofizika vysokikh temperatur
UFN	-	Uspekhi fizicheskikh nauk
UF'Zh	-	Ukrainskiy fizicheskiy zhurnal
UMS	-	Ustalost' metallov i splavov
UNF	-	Uspekhi nauchnoy fotografii
VAN	-	Akademiya nauk SSSR. Vestnik
VAN BSSR	-	Akademiya nauk Belorusskoy SSR. Vestnik
VAN KazSSR	-	Akademiya nauk Kazakhskoy SSR. Vestnik
VBU	-	Belorusskiy universitet. Vestnik
VNDKh SSSR	-	VNDKh SSSR. Informatsionnyy byulleten'
VLU	-	Leningradskiy universitet. Vestnik. Fizika, khimiya
VMU	-	Moskovskiy universitet. Vestnik. Seriya fizika, astronomiya

ZhETF	-	Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhETF P	-	Pis'ma v Zhurnal eksperimental'noy i teoreticheskoy fiziki
ZhFKh	-	Zhurnal fizicheskoy khimii
ZhNiPFiK	-	Zhurnal nauchnoy i prikladnoy fotografii i kinematografii
ZhNKh	-	Zhurnal neorganicheskoy khimii
ZhPK	-	Zhurnal prikladnoy khimii
ZhPMTF	-	Zhurnal prikladnoy mekhaniki i teoreticheskoy fiziki
ZhPS	-	Zhurnal prikladnoy spektroskopii
ZhTF	-	Zhurnal tekhnicheskoy fiziki
ZhVMMF	-	Zhurnal vychislitel'noy matematiki i matematicheskoy fiziki
ZL	-	Zavodskaya laboratoriya